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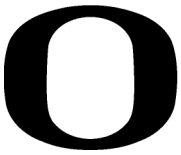

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Telework Productivity and Effectiveness: Factors that Influence Results-Oriented Job Assessments

CAPSTONE REPORT

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Abstract

The study provides a set of factors that pertain to the essential requirements that employees and managers working in large multinational corporations must consider for job performance assessments of teleworkers. This review identifies the use of a goal-oriented system and technization that create trust relationships and empower employees to achieve a quality outcome. These elements consider the benefits and drawbacks of relevant social and technology factors that influence productivity and effectiveness for results-oriented job assessments.

Keywords: flexible work policies, job performance assessments, results-orientation, technization, telecommuting, telework, traditional job assessments, and virtual teams

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Introduction to the Literature Review

Purpose

Corporate managers within large multinational corporations (MNCs), as discussed by Hartman, Stoner, and Arora (1992), find that recruiting, developing, and maintaining a high quality workforce is a challenge. Hartman et al. (1992) depict how today's managers tackle new complexities in the workplace, with such examples as "growing workforce diversity, changing social forces" (p. 35), and other lifestyle changes, that note the need for managers to "reconsider traditional work arrangements" (p. 35). They affirm that "[a]lternative work arrangements, to include telecommuting, have been used to deal with these increasingly complex human resource issues" (p. 1).

A study by Staples (2001), cites research by Grenier and Metes, 1995; Jenner, 1994; Lucas and Baroudi, 1994; Snell, 1994, that reports how conventional roles in management "are changing" (p. 187) as well. In a discussion regarding the rise in the distributed workforce (e.g. telecommuting and teleworking), Staples (2001) explains that the hierarchical role of the manager as someone who observes the employee within the traditional job performance review process, is no longer practical due to the inability to observe on-site and day-to-day behavior and limited face-to-face contact. Staples suggests that managers must shift from traditional job assessments towards results-oriented assessments, or include a "focus on what you contributed today, not whether or not you were at your desk" (p. 189). Along with the shift in process is also the change in paradigm to the development of trust and minimal supervision expectations as well (Staples, 2001).

The purpose of this study is to identify and describe a set of factors that pertain to the essential requirements that employees and managers working in large, multinational corporations (MNC) must consider, in relation to the concept of assessing the job performance of teleworkers or telecommuters, from a results-oriented perspective. Teleworking (or telecommuting) is defined for purposes of this study as "organizational work performed outside the normal organizational limits of space and time, supported by computer and communication technologies" (Stratigea & Giaoutzi, 2000, p. 332). Emphasis is on two pre-selected requirements: productivity and effectiveness, as they relate to job performance assessment factors, focusing on employees who telework the majority of their working hours. The concept of productivity refers to "the amount of output produced in a specific amount of time" (Miller, 2008, para. 3). Effectiveness is defined as the ability to deliver a "successful outcome and meet objectives as fully as possible" (NI Direct, n.d., Glossary).

Hartman et al. (2001), state that "an overwhelming 84% of telecommuters report higher productivity" (p. 36), than their in office time based on a majority of respondents within the information technology field, from their study of corporate employee's who regularly work at home or at a remote location, in lieu of working in the office. Additionally, data from Hartman's study shows that a very small percent (only 4%) of "telecommuters reported lower productivity, while 12% reported no change" (Hartman et al., 2001, p. 36). Although the Hartman study summarizes perceptions that are self-reported, and therefore possibly biased, they are consistent with previous writings (p.36). Kossek, Lautsch, and Eaton (2006) tie the increased productivity to certain social aspects and Hartman cites similar rationale for the increase. Hartman et al. (2001) also connect the effectiveness of teleworking with technology, reporting that teleworkers

"expressed the need for more, faster, and better equipment and software" (p.36) in support of more effective communications (Hartman et al., 2001; Kossek et al., 2006).

However, the question of the larger context of teleworking and career advancement is addressed by Hartman et al. (2001), who come to the conclusion that "most telecommuters felt their career advancement had been hurt by telecommuting" (p. 40). The results by Hartman et al. highlight the respondents' concern that while the type of job performance assessment selected by a company must measure both the quality and quantity of the telecommuter's work, there is also a critical need for this type of worker to be supported by management (Hartman et al., 2001). In further consideration of these elements, Hartman et al. state that "management must find ways to "implement an effective performance evaluation system" (p. 41) and ensure that "reward and promotional systems are consistent with those of on-site workers" (p. 41).

Problem

Managing the teleworker. In the study titled Human Resource Planning, Rogers, Rogers, and Metley (2002) state that since the beginning of the 20th century, there have been changes in the workplace that have "diminished a supervisor's ability to assess fully his or her participants' performance" (p. 45). Large organizations today have moved away from the typical up and down flow of information and top down decision making (Barrett & Turtz, 1999, p. 277). Barrett and Turtz (1999) describe that the traditional, hierarchical, and "inflexible pyramid structure" (p. 277) of large corporations is changing to remove most middle-management levels and eliminate their functions, thereby bringing top management in closer contact with employees (Business Dictionary, n.d.). A newer organizational structure incorporates "the team concept" (p. 277) to allow a more agile decision-making process and rapid response to problems (Barrett & Turtz, 1999).

Allen (2001) describes how organizations are implementing policies and programs "designed to help accommodate the needs of today's diverse workforce" (p. 414), including the development of teleworking in response to changes in the workplace. According to Allen (2001) this type of program, or benefit, allows employees to better balance and manage the trend toward an increase in multiple life roles. However, Allen also points out that an employee who takes advantage of this type of benefit is not exempt from supervisors who may view the arrangement as a "lack of commitment to the organization" (p. 415). As noted by Rogers et al., (2002), managers today must supervise employees who are working across organizational boundaries and out of the supervisor's direct reach, including those who are teleworkers or who work globally.

Rogers et al. also recognize that companies are more global and require employees to work with colleagues and customers in other locations, necessitating communication "across organizational boundaries and out of the supervisor's reach" (p. 45). Staples (2001) illustrates that "managing employees who are located remotely from their manager is a key issue in telecommuting and virtual organizational structures" (p. 187). Staples shows that managers face corporate culture and social challenges as a result of often inadequate teleworking policies; however the point is also made that technology advancements are creating more opportunities and that "IT is a key enabler of remote work" (p. 187). This concept is also supported by Hartman et al. (1992) who state that "advancing technology has made it increasingly feasible to work from remote sites" (p. 35); in this context, "telecommuting has become one of the mechanisms management may utilize to meet pressing human resource challenges" (p. 35).

In addition there are social and technology factors involved that must be considered (Staples, 2001). Along this line, Shin, Sheng, and Higas (2000) posit that telework is attracting a

lot of attention and its growth is rapid and significant, due to many social and technological factors. The social components such as less interaction with colleagues and an individual concern for career advancement are important areas on which to reflect (Shin et al., 2000). IT is considered a driving force behind the movement and new state-of-the-art technology provides an effective mechanism to address inherent organizational concerns of internal processes, such as managing information, communication, and collaboration support regardless of geographic location (Shin et al., 2000). Shin et al., examine the implications of the social and technology factors as they relate to productivity and effectiveness in an organization, and conclude that they have both positive and negative outcomes.

Traditional assessments vs. results-oriented assessments. The concept of job performance management is described by Deadrick and Gardner, (1999) as a "cornerstone of human resource (HR) practices and is the basis for developing a systems approach to organizational management" (para. 2). The performance assessments are a way to link employee achievements to HR and management decisions by a measurements process (Deadrick & Gardner, 1999). However, Deadrick and Gardner also state that "there have been numerous criticisms of traditional performance appraisal systems" (p. 225) and they question the usefulness and acceptance due to "concerns about criterion relevance and contamination" (p. 225). The main problem according to Deadrick and Gardner (1999) is the excessive emphasis on performance measurement (e.g. criterion problems resulting from rating errors and other inaccuracies) as opposed to goal specification. Pinsonneault and Boisvert (2001) recognize that teleworking calls for a reduction on the reliance of control mechanisms and the implementation of "more appropriate results-oriented" approaches in management (p. 174). Staples (2001) offers

that both managers and organizations should adopt a goal-oriented environment where management is a leader and coach rather than a passer of information.

Wholey (2003) describes the notion of results-oriented management as a shift in the focus from inputs and processes used in traditional methods, to results, with the intention of strengthening accountability to key stakeholders. Results-oriented management incorporates three features of a) setting clear goals that refer back to results, b) involving managers and employees in the decision making, and c) monitoring and evaluating the results (Wholey, 2003, p. 42). Wholey explains that the focus on results, gleaned from regular monitoring, is central to results-oriented systems and supports the ability for managers to shift the focus of the job performance assessment on outcomes. All three steps open up the opportunity to recognize and communicate the value of the goals between manager and teleworkers (Wholey, 2003).

Results-oriented assessment shifts the focus from inputs and process to results with the intention of strengthening accountability to key stakeholders. It incorporates three features of 1) setting clear goals that refers back to results, 2) involving managers and employee in the decision making, and 3) monitoring and evaluating the results (Wholey, 2003, p. 42). Additionally, the results-oriented system as explained by Deadrick and Gardner (1999) improves the rating accuracy since there is less opportunity for raters to "intentionally or unintentionally distort (contaminate) their ratings" (p. 226). Deadrick and Gardner (1999) elucidate that in the results-oriented system, it is essential to make the raters aware of the constraints that obstruct employee job performance and set the expectation that raters differentiate "between performance variations due to common (system) versus special (person) causes" (p. 226). At a minimum, the results-oriented process should "explicitly recognize and separate sources of performance variation that are attributable to system versus person factors" (p. 226). The results-oriented process employs

both managers and employees to contribute, problem-solve, and work together in activities that are necessary to achieve a quality outcome (Deadrick & Gardner, 1999). Involving employees in the process provides the opportunity to identify and address the broad range of system factors that constrain and/or enhance job performance, and therefore, update goals based on the current job environment (Deadrick & Gardner, 1999).

In relation to job performance assessment, Potter (2003) suggests that "the majority of workplaces still value and reward being in the traditional office environment to prove workplace commitment and performance" (p. 77). Potter asks questions about just how critical face-time actually is for managers and employees reaching the conclusions based on information from Boston College's Center for Work and Family, that "managers are more likely than employees to believe that telecommuting negatively affects the supervisor-employee relationship" (Potter, 2003, p. 77). He further concludes that "[c]onsequently, managers are more likely not to give telecommuters the same promotions and performance reviews as employees who remain strictly in the office" (p.77). Information presented by Staples (2001), indicates that effective communication between managers, employees and their peers about critical issues is the top concern for both managers and teleworkers. He identifies a need to effectively replace the loss in non-verbal signs used in face-to-face contact and lack of informal communication that strengthens teamwork and the relationships within organizational groups (Staples, 2001).

Fearful perceptions. Alston (1992) cites works by Mahfood, 1992 and Provenzano, 1994 connected to the issue of supervising teleworking employees, indicating that mangers fear that "with [teleworking] employees out of sight, they [cannot] adequately control employee's work behavior" (Alston, 1992, p. 26). Golden (2006) suggests that managers are apprehensive about what they perceive as "giving up control over subordinates and hence are reluctant to

support telecommuting, making it hard to imagine that managers would encourage subordinates (even if they have good relationships) to telecommute and run the risk of less control" (p. 336). Staples (2001) reports that many researchers describe that "managers fear that loss of control to be a significant factor in preventing widespread adoption of telecommuting" (DeSanctis, 1984; Duxbury, Higgins & Irving, 1987; Duxbury & Haines, 1991; Goodrich, 1990; Kavan & Saunders, 1998; Phelps, 1985; Risman & Tomaskovic-Devey, 1989; Roderick & Jelley 1991), cited in Staples, 2001, p.187).

From the employee point of view, Kossek et al. (2006) identify that "telecommuting professionals in today's workplace face challenges in managing work and personal life" (p.354), but are hesitant about taking on the opportunity to telecommute. As noted by McCloskey and Igbaria (2003), the general fear for teleworkers that "telecommuting [has] a negative impact on career advancement prospects has been a barrier to telecommuting acceptance" (p. 19). Moreover, employees who believe that if peers and employers do not support alternative work arrangements such as teleworking, they are more apprehensive to use the benefits for fear it hurts "their future career prospects within the organization" (Allen, 2001, p. 418). Similarly, Allen (2001) points out that company support "is crucial to the success" (p. 415) of a teleworking employee. Thus, "when employees perceive that the work environment and/or supervisors are sending the message that [the teleworking] benefit usage is not supported, employees may be fearful of using the benefits, despite [its] availability" (p. 430).

Focus. Two larger categories of requirements, productivity and effectiveness as described above, are examined as a way to identify the essential factors that employees and managers working in MNCs must consider, in relation to assessing a results-oriented job performance by focusing on the goals of telecommuters and teleworkers (Stratigea & Giaoutzi, 2000). In this

researcher's professional experience, productivity and effectiveness call for managers and teleworking employees to set clearly defined and measurable performance objectives, and are both impacted by work environment in conjunction with results-oriented job performance criteria. The first requirement, productivity, discussed by Platt & Page (2001), is described as a social factor which includes the social interaction that teams need to bond, effectively interact, and "work in harmony" together (p. 142). The second requirement, effectiveness, is described as a technology factor which includes tools that allow synchronous collaboration and open exchange of ideas for the team "to act in the present moment" (Platt & Page, 2001, p. 142). These requirements and factors play a significant role in the level of success that can lead to career advancements for teleworkers (Platt & Page, 2001). These examples present managers and teleworkers an opportunity to open the lines of communication and apply the results-oriented three step approach described by Wholey (2003). Both, as noted by Neufeld and Yang (2004), "telecommuter beliefs and attitudes, and the quality of their social interactions with managers and family members, were strongly associated with productivity" (p. 1).

Significance

Data from Cascio (2000) indicates that "two of every three Fortune 500 companies employ teleworkers and forty million employees' telework on a global basis" (p. 85). Ozcelik (2010) references the Gartner Group to identify numbers of "approximately 100 million teleworkers worldwide, who work more than eight hours per month in 2008" (p. 213). According to data from the Bureau of Labor Statistics (BLS), the percentage of Americans who telework, or work remotely, more than once a month has increased between 2006 and 2008 from 8 percent to over 11 percent, respectively (WorldatWork, 2009). Along this track, the five-year timeframe

beginning in 2003, the total number of Americans who practice telework over once-a-month rose by 43 percent, from 23.5 million to 33.7 million (WorldatWork, 2009). A recent news article by Eve Tahmincioglu (2010), an award-winning labor and career columnist for msnbc.com provides data that "[t]oday, upwards of 12 million employees telework more than 8 hours per week, up from about 6 million [U.S. based] in 2000" (para. 7). A decade later, the trend shows continued growth according to Golden (2004) who "estimates a six-fold increase in this number over the next thirty years" (p. 1). The reasons for increased use of teleworking include those "related to the benefits it offers both employees and employers" (Tahmincioglu, 2010, para. 7). See Table 1 for an "estimated number of teleworkers in the USA over the years, with a frequency range from as little as one day week to full time" (Ozcelik, 2010, p. 214).

Table 1

Historical Numbers of Estimated Teleworkers in the USA

Year(s)	Number of US Teleworkers	Sources
1988 - 90	2.2 million increased to 4 million	Braus (1993); Gordon (1990); Ellen and Hempstead (2002); Miller (1998)
1991 - 93	5.5 million increased to 7.3 million	Gordon (1991); Gordon (1993)
1994 - 96	9.1 million increased to 9.7 million	Russell (1996); Korzeniowski (1997); US Dept. of Transportation (2000)
1997- 99	11.1 million increased to 19.6 million	Ellen and Hempstead (2002); Pratt (1999)
2000 - 03	23.6 million increased to 41.3 million	Davis and Polonko (2001); Telework Advisory Group (2005); World at Work Report (2007)
2004 - 06	44.4 million increased to 44.8 million	Telework Advisory Group (2005); World at Work Report (2007)

Note. Exact numbers in various research studies vary, and exact numbers are difficult to obtain due to the different definitions of teleworking used by reporting agencies (Ozcelik, 2010).

Golden (2004) proposes that, "management research has been slow to investigate this increasingly popular work arrangement" even though many positive outcomes of teleworking

have been claimed in the literature by telecommuting & telework researchers. The most often cited by teleworkers is job satisfaction and "[s]econd, improved productivity and quality of work associated with telecommuting is the most cited organizational benefit in the literature" (Pinsonneault & Boisvert, 2001, p. 6). Based on the Shin et al. (2000) study of existing research, the authors claim that attention to personal issues is unbalanced and requires further study. Shin et al. also call out a need for additional empirical investigations as to the effects of IT on teleworkers' job performance and overall effectiveness as an important future direction. Shin et al. propose flexible telework policies that include moving from ad hoc solutions to goal-oriented planning (p. 98).

Audience

Cascio (2000) provides examples of MNCs that offer flexible work alternatives, such as teleworking. Cascio identifies the large, multinational technology organizations such as IBM, Hewlett-Packard, and Cisco as just a few of the corporations that employ teleworkers in this "popular and rapidly growing alternative to the traditional, office-bound work style" (p. 85). Companies that support effective telework arrangements all provide personal computers to their employees for home use, thus addressing one essential factor in a teleworker's productivity and effectiveness (Cascio, 2000). Furthermore, Staples (2001) describes information technology as a "key enabler of effective remote management" (p. 193).

The audience selected for this literature review is the employees working for large, multinational organizations who are primarily considered teleworkers, who use technology extensively to complete their work, and managers of teleworkers who conduct performance assessments. Telework jobs could include a wide variety of types of workers, such as engineers,

developers, web analysts, business and systems analysts, project managers, social media experts, and training developers. This study is also designed for employees who are responsible for managing, organizing, and sharing data and information with these teleworkers. Managers who supervise teleworkers and have teleworking experience themselves; often have an advantage from those who have never experienced telework since "previous firsthand experience is an important asset for a manager in this position" (Pinsonneault & Boisvert, 2001, p. 174).

Outcome. The outcome of this study is a set of factors that pertain to the essential requirements that employees and managers working in large MNCs must consider in relation to the concept of assessing the job performance of teleworkers, or telecommuters. The set of factors has clear implications for the way in which corporations conduct job performance assessment in general. Henquinet (2001) notes the importance of job performance appraisal systems having a focus on "both the employee and the supervisor on outcomes, with telecommuters evaluated on results and not penalized for physical distance" (p. 124). Additionally, an organization that supports and encourages teleworking must enable, and ensure its full support by including unambiguous job performance objectives for managers, as well as explicit teleworking policies (Bouchard, 2008; Henquinet, 2001; Ozcelik, 2010). Factors are organized in the outcome in a manner that can be aligned with telework policies in an organization.

Emphasis is placed on two larger categories of requirements, productivity and effectiveness. These requirements are examined as a way to identify the essential factors that employees and managers working in MNCs must consider in relation to assessing a results-oriented job performance, by focusing on the goals of telecommuters and teleworkers (Stratigea & Giaoutzi, 2000). The goal is to highlight the importance of management and peer support, along with the job control that the added flexibility of teleworking can bring to careers (Kossek

et al., 2006). Kossek et al. (2006) indicate employers that support teleworking signify a high level of trust between employee and manager that may lead to higher performance, but that more research is needed to determine if this is a converse effect of high performance workers viewing the opportunity of a teleworking arrangement itself as a reward. Likewise, Baruch (2001) postulates the importance of organizations to put in place the proper support mechanisms and finding alternative ways to manage teleworking as an alternative arrangement that lead to innovative career paths.

Research Question and Sub-questions

A set of research questions guides the selection of literature to frame the study (Creswell, 2009) and the design of the approach to data analysis. The questions relate specifically to the identification of key social and technology factors that influence job performance assessments, and how these might impact results-oriented assessments. Focus is on the overarching question of how managers rate employees who telework with respect to the requirements of productivity and effectiveness, and what the implications are for performance assessments in general (Barrett & Turtz, 1999; Hoang, Nickerson, Beckman, & Eng, 2008; Hunton, J., 2005; Kossek, Lautsch & Eaton, 2006).

The sub-questions as they relate to the topic and purpose of the study are:

1) What are the social factors that managers should consider when assessing job performance teleworkers related to the requirement of productivity?

2) What are the social factors that managers should consider when assessing job performance of teleworkers related to the requirement of effectiveness?

3) What are the technology factors that managers should consider when assessing job performance of teleworkers related to the requirement of productivity?

4) What are the technology factors that managers should consider when assessing job performance of teleworkers related to the requirement of effectiveness?

Research Delimitations

Time frame. The concept of telework can be traced back to the early to mid 1950s, and more widely discussed in the mid 1970s with the onset of the oil crisis, to allow workers to work from home via computers and telecommunication links and avoid daily commuting (Li, 1998). A vast amount of attention is given to the subject with rapidly expanding connotations over the past few decades (Li, 1998); however the core definitions of telecommuting and telework are based on the terms "coined by Dr. Jack Nilles" (Alston, 1997, p.4), as he originally defined them back in the early 1970s and are used consistently across sources within this study. According to Nilles (1998) results of his studies are "quite consonant with – and comparable to – those of thousands of others that were tested since the mid-1970s in a variety of organizations" (p. 15). Information is therefore not disregarded based completely on age but instead use the most recent publications available that relate to the selection criteria.

Selection criteria. The study is structured as a literature review, with the purpose to convey the existing knowledge and ideas along with the strengths and weaknesses of the topic (American University Library, 2010). Bell and Smith (2007) highlight an example that clearly shows the need for a deeper evaluation of information sources, no matter where they might reside. They outline the need for specific criteria to be used in the evaluation of information and to "think critically" about the sources to include asking questions related to "authority,

objectivity, quality, coverage, and currency" (Bell & Smith, 2007). An initial set of key words and concepts are defined based on the topic focus. Alston (1997) offers the definition for the key concepts, outlined within the definitions section of the study, which sets the base for the research to follow, postulating that telecommunication is used as the substitute for commuting to a traditional place of work (1997). Relevant works include those directly focused on one or more of the elements of the study (e.g. telework, telecommuting, productivity, effectiveness, performance assessment, social and technology factors) to incorporate works that meet minimally specified criteria (Leedy & Ormrod, 2005, p. 9). The selection criteria include the following:

- Use standard research format and structure.
- Involve data collection, analysis, and interpretation.
- Present methods and procedures used to collect and analyze data.
- Present findings and conclusions based on findings.
- Works for which full text are accessible or reproducible.

Literature is selected from scholarly databases such as Google Scholar and through the University of Oregon's Library, using OneSource with focus on professional, reputable business journals and publications, peer reviewed, online academic studies, government research reports, and university white papers. Luckey (2009) presents the idea by Smith (2006) that "most academic work favors scholarly sources over those that are popular" (p. 17). However, he also concurred that not all sources have to meet each element of the selection criteria in order to be deemed as credible (Luckey, 2009). Bell and Smith (2007) provide a framework that is used as a guide to determine the most worthy information sources, which follow similar guidelines recognized above, by Leedy and Ormrod (2005).

Exclusions. The standard World Wide Web search engines to include Google, Yahoo, Bing, and Ask, are not used as they do not generally include the type of scholarly sources required for the study. The following areas are not explored, but may be reasonable extensions of another study:

- Telecommuting or Teleworking impacts on the organization, to include cost savings.
- Best practices for setting up the ideal telework programs or workplace guidelines.
- Telecommuter or teleworker selection criteria.
- Comparison factors of teleworkers and on-site employees.

Topic focus. The popular press noted the arrival of teleworking back in the late 1990s and researchers provide mixed perceptions of the teleworking phenomenon, which includes varied definitions (Kurland & Egan, 1999). The teleworking experience plays a much larger role within an organization than what is described in this literature review, and is said to increase the options for an organization along with the "potential to benefit individuals, organizations and society" (Kurland & Egan, 1999, p. 511).

Kurland and Egan (1999) recognize a lack of attention in the adoption of teleworking and its relationship for both managers and employees on remote supervision challenges and the potential to impede career opportunities for employees. Additionally, the Korn/Ferry International survey identified in the study by Hoang, Nickerson, Beckman, and Eng (2008) indicates "that 61% of the managers believe that telecommuting could hurt employees' careers" (p. 78). There are "implied advantages and disadvantages attributed to the telecommuting phenomenon" (p. 500) and this review identifies these implications as they relate to both productivity and effectiveness requirements (Kurland & Egan, 1999). The discussion of teleworking or telecommuting within this review is limited to these two requirements for

employees to establish the relationship of both social and technology factors that influence productivity and effectiveness within MNCs.

Definition of teleworker. The increase in the trend of teleworking is due to a combination of factors including the proliferation of high-speed and wireless internet access, beginning in the early part of 2000 as it became a household commodity (WorldatWork, 2009). Then in 2008, the explosion of the hand held device proliferated the way work is done for employers and employees (WorldatWork, 2009). The terms teleworker and telecommuter are used interchangeably, as "the act of working outside the conventional workplace… by way of computer-based technology" (Nilles, 1994, as cited by Kurland & Egan, 1999). Although the dominating term used throughout the majority of research is "telecommuting" (Jackson & Van Der Wielen, 2002), the default term used in this paper is teleworker or teleworking, based on its relationship to the 'work' aspect and to emphasize that the study is not specifically related to a replacement for commuting. Kurland and Egan (1999) discuss home based, neighborhood and satellite work centers, which is not directly distinguished in this paper. Home based work centers are the most common form of teleworking and is the primary focus within; however it is assumed many of the same factors apply to other teleworking situations such as hotels or satellite offices (Kurland & Egan, 1999). The definition used in this study includes only those teleworkers who are part or full time organizational employees and who regularly work at home or at a remote location the majority of their working hours in lieu of working in the traditional office (Hartman et al., 1992).

Data Analysis Plan Preview

This inquiry is designed as a review of the literature that "evaluates, organizes and synthesizes" existing knowledge (Leedy & Ormond, 2005, p. 77) to obtain a new perspective on the topic (Obenzinger, 2005, p.1). This approach also provides a higher level of significance and "meaningful context" (p. 1) of the research to identify key factors concerning job performance assessments for teleworkers (Obenzinger, 2005).

Research is conducted to gather carefully selected literature through specific keyword and key phrase searches, then identifying elements within each one to classify both the credibility and relevancy of the information (Obenzinger, 2005). This requires the investigation of a large amount of chosen literature to compare the commonalities of factors that represent potential performance assessment criteria related to teleworking, and bring forth the idea that the criteria has been primarily based on employee visibility rather than results (Hoang et al., 2008).

Data analysis proceeds through two stages of a coding process known as "conceptual analysis" (Busch, De Maret, Flynn, Kellum, Le, Meyers, Saunders & White, 2005). Conceptual analysis is used to examine a sub set of the collected literature and to address both implicit and explicit meanings within the text (Busch et al., 2005). To begin, an initial set of terms and phrases that address social and technology requirements related to teleworking is derived from the chosen literature. Once these requirements are defined, they are used to guide a second round of coding, following the eight step coding process, described by Busch et al., (2005) and detailed in the Research Parameters section of this paper. The focus during the second stage of coding is to identify a set of factors that pertain to the essential requirements that employees and managers

working in large MNCs must consider, in relation to the concept of assessing the job performance of teleworkers, with focus on productivity and effectiveness.

Writing Plan Preview

The identified studies, articles and reports are fully read to comprehend the meaning of each one and evaluate the relationship to the purpose and goals of this study. As described by Obenzinger (2005), the literature is first evaluated and prioritized to identify the "most significant texts" (p. 4). Relevant information revealed during the two stages of coding during conceptual analysis is studied and aligned with the "battlebot" rhetorical pattern to identify various lines of argument and debate (Obenzinger, 2005, p. 5). The presentation of the information follows a "thematic" approach of organization to include a dedicated section for each major theme (Busch et al., 2005). The goal is to develop a point of reference that identifies the most significant elements the audience can use to distinguish what social and technological factors are critical to a teleworker's job performance assessment requirements within a result-oriented approach. The three anticipated central themes are (a) results-oriented job performance for teleworkers, (b) factors that influence the job performance of teleworking employees with respect to productivity and effectiveness requirements, and (c) the institution of clear teleworking policies for results-oriented job performance (Barrett & Turtz, 1999; Deadrick & Gardner, 1999; Hoang, Nickerson, Beckman, & Eng, 2008; Hunton, 2005; Kossek et al., 2006; Lautsch & Eaton, 2006; Pinsonneault & Boisvert, 2001).

Definitions

The terminology used within this literature review is obtained from the identified sources reviewed as well as other academic and reference materials. Although, some definitions are included throughout the document to provide context or clarity, this section contains the full list of definitions to ensure the full contextual meaning of terminology is clear to the audience.

360-degree feedback is a process used by employers to gather performance appraisal data from 'all around' an employee his or her peers, subordinates, supervisors, and sometimes, from internal and external customers. Its main objective usually is to assess training and development needs and to provide competence-related information for succession planning not promotion or pay increase (Business Dictionary, n.d.).

Digital Subscriber Line (DSL) is a technology that significantly increases the digital capacity of ordinary telephone lines (the local loops) into the home or office. DSL speeds are based on the distance between the customer and telco central office. There are two main categories. Asymmetric DSL (ADSL) is used for Internet access, where fast downstream is required, but slow upstream is acceptable. Symmetric DSL (SDSL, HDSL, etc.) is designed for connections that require high speed in both directions (Business Encyclopedia, PC Magazine, n.d.).

Effectiveness is defined as delivering a successful outcome and meets objectives as fully as possible (NI Direct, n.d., Effectiveness). It is a multi-dimensional concept that applies both to workers and to organizations. Effectiveness is frequently measured in terms of worker, management, and customer satisfaction; of productivity changes; and by cost benefit effects (Shin et al., 2000).

Fit is a concept that renders a solid theoretical foundation and can be defined from six different perspectives: *matching, moderation* (interaction), *mediation* (intervention), *gestalts* (internal congruence), *covariation* (internal consistency), and *profile deviation* (adherence to a specified profile). (Shin, 2003, p. 4)

Flexible work Arrangements allow employees to have a more variable schedule or offsite work environment as opposed to complying with the standard 8-hour workday, in the traditional workplace. (Entrepreneur Encyclopedia, n.d.).

High Technology is "any highly technical or specialized technological application or equipment, especially one that involves complex electronics or computin" (Wikipedia.com).

Knowledge workers are individuals who are valued for their ability to interpret information within a specific subject area. They often advance the overall understanding of that subject through focused analysis, design and/or development and use their research skills to define problems and to identify alternatives. Fueled by their expertise and insight, they work to solve those problems in an effort to influence company decisions, priorities and strategies (Business Encyclopedia).

Multinational Corporation (MNC) is an "Enterprise operating in several countries but managed from one (home) country. Generally, any firm or group that derives a quarter of its revenue from operations outside of its home country is considered a MNC, and may fall into one of the four categories: (1) multinational, decentralized firm with strong home country presence, (2) global, centralized firm that acquires cost advantage through centralized production wherever cheaper resources are available, (3) international, firm that builds on the parent firm's technology or R&D, or (4) transnational, firm that combines the previous three approaches. According to

UN data, some 35,000 firms have direct investment in foreign countries, and the largest 100 of them control about 40 percent of world trade" (Business dictionary.com).

Performance assessments, identified by the educational book, *Human Resource Management*, as "a process of systematically evaluating performance and providing feedback on which performance adjustments can be made" (p. 71). Defined by the Advisory, Conciliation and Arbitration Service (ACAS) that states "appraisals regularly record an assessment of an employee's performance, potential and development needs. The appraisal is an opportunity to take an overall view of work content, loads and volume, to look back on what has been achieved during the reporting period and agree objectives for the next" (Dransfield, 2000, p. 71); and "are often tied to compensation, salaries, or bonuses" that may lead to promotions (Stovel & Bontis, 2002, p. 317)

Performance is an accomplishment of a given task measured against preset standards of accuracy, completeness, cost, and speed (Business dictionary.com).

Performance Management is an assessment of an employee, process equipment or other factor to gauge progress toward predetermined goals (Business dictionary.com).

Performance measurement is the quantification of efficiency or effectiveness in conducting business operations for the accounting period (Business Encyclopedia, Answers.com).

Productivity is the amount of output produced in a specific amount of time" (Miller, 2008, para. 3). Productivity measurement is a quantifiable measure calculated as the ratio of what is produced to what is required to produce it (Business Encyclopedia, Answers.com).

Promotability is used in association within the employee's management review to raise to a higher rank, status, degree, etc. and to further encourage or advance the progress or existence of an employee (Business Encyclopedia).

Results-oriented assessment is described by Wholey (2003) as an approach that has emerged as a common element in corporate reform efforts. It is the "purposeful use of resources and information in efforts to achieve and demonstrate measurable progress toward outcome-related goals" (p. 42). The results-oriented methods shift the focus from inputs and process to results with the intention of strengthening accountability to key stakeholders. It incorporates three features of 1) setting clear goals that refer back to results, 2) involving managers and employee in the decision making and 3) monitoring and evaluating the results (Wholey, 2003, p. 42). Deadrick and Gardner (1999) explain that in the results-oriented system, it is essential to make the raters aware of the constraints that obstruct employee job performance and set the expectation that raters differentiate "between performance variations due to common (system) versus special (person) causes" (p. 226) which thereby improves the rating accuracy since there is less opportunity for raters to "intentionally or unintentionally distort (contaminate) their ratings" (p. 226). The results-oriented process employs both managers and employees to contribute, problem-solve, and work together in activities that are necessary to achieve a quality outcome (Deadrick & Gardner, 1999). Involving employees in the process provides the opportunity to identify and address the broad range of system factors that constrain and/or enhance job performance, and therefore, update goals based on the current job environment (Deadrick & Gardner, 1999).

Self-efficacy has been described as the belief that one is capable of performing in a certain manner to attain certain goals. It is a belief that one has the capabilities to execute the

courses of actions required to manage prospective situations (en.wikipedia.org/wiki/Self-efficacy).

Social, for purposes of this study, relates directly to the "well being of the individual," (Business dictionary.com) community or an entity, and the "complex interactions that may occur among or between them" (Manski, 2000, p. 116).

Technization (of the workforce) according to Barley (1997), "rests on the concept of the digitization of information" (p. 9) and that created information is "an economic good" and "a commodity that could be created, bought, and sold" (p.9). Barley describes this concept as "the transformation of blue- and white-collar work by microelectronic technologies" (p. 38). Barley's descriptions of technization include jobs that have been re-classified based on the technological advances that replace the way the work was previously done. Just as the influence of microelectronics has changed the way work is done, technization has changed how the workforce approaches working. Technology changes are seen as a more effective and efficient substitute or replacement for a previous technology, and in some cases, "technization describes the growth of new occupations" (p. 38) or in other cases the transformation of existing work (Barley, 1997).

Telecommuting is defined by Hartman et al. (1992) defines telecommuting as "a work arrangement where organizational employees regularly work from home or at a remote site one or more complete workdays a week in lieu of working in the office" (Hartman et al., 1992, p. 36).

In addition, *telecommuting* - as cited in S. Alston's Masters Thesis:

> The term telecommuting was coined by Dr. Jack Nilles of the University of Southern California in 1976 (Nilles et al. 1976). Nilles' definition specified the substitution of telecommunications for transportation. Rather than commute to a

> traditional place of work, workers could remain at home, or near to home, and telecommunications technology and computers to move the work to them. (Nilles et al., 1976)

Telecommuters are those organizational employees who spend all, or part, of their work time at home, substituting telecommunications, with or without the assistance of computers for the twice daily commute to work. The three characteristics are:

1. Telecommuting includes the use of telecommunications.
2. Telecommuters need to be organizational employees.
3. Telecommuting involves the substitution of a commute (Alston, 1992, pp. 16-19).

Teleworker, described in the article by msnbc, Rita Walston, executive director of the Telework Consortium, a group that helps public and private organizations implement telework programs, says the term of choice for telecommuting is now "teleworking" mainly "because it focuses on the work, where as telecommuting focuses on getting from here to there instead of getting work done" (Tahmincioglu, 2010, para. 7). The common element that Nilles provides across all aspects of telework is "the use of computers and telecommunications to change the accepted geography of work" (Mears, 2007, p.7).

Successful telecommuting is defined by Hartman et al. (1992) as "an arrangement that enhances the productivity and/or satisfaction of the participants" (p. 36). Various factors have an effect on telecommuting or teleworking success, but some are more important than others (Hartman et al., 1992). This study focuses on the two requirements, productivity and effectiveness, that lead to successful teleworking.

Traditional job assessment as explained by Lam and Schaubroeck (1999) is a method of job assessment where the emphasis is on "measuring individual results; efforts to improve performance often tend to focus on individual differences rather than the constraints imposed on by the overall system" (p.446). Examples of these constraints include the leadership context, work process flow, and the organizational design. It is seen to discourage employees from seeking help from co-workers and avoid challenges, as the focus is on faults of employees instead of systems. It uses quantitative indicators of performance outcomes that are less measurable in quantifiable terms and therefore neglected, such as quality improvement objectives. It links performance measurements to individual rewards that can skew results, especially when the focus is on comparison to co-workers that prevents a cooperative nature of working for the betterment of the organization (Lam & Schaubroeck, 1999, pp. 446-447).

Video Conferencing, also called video teleconferencing is two way, real-time transmission of audio and video signals between specialized devices or computers at two or more locations via satellite (wireless) over a network such as a LAN or internet. Full motion (30 frames per second), full color videoconferencing requires a bandwidth of 6 megahertz (MHz) for analog signals and 1.54 megabits per second (Mbps) of digital signals (Business Dictionary, n.d.).

Virtual Private Network or VPN is a private data network that makes use of the public telecommunication infrastructure, maintaining privacy through the use of a tunneling protocol and security procedures. Most VPN implementations use the Internet as the public infrastructure and a variety of specialized protocols to support private communications through the Internet. The main purpose of a VPN is to give the company the same capabilities as private leased lines at much lower cost by using the shared public infrastructure. Secure VPNs are particularly

valuable for remote access where a user is connected to the Internet at a location not controlled by the network administrator, such as from a hotel room, airport kiosk, or home (VPN Consortium, 2008).

Virtual teams, consist of team members who are geographically disbursed and who come together by telecommunication technology (Kurland & Bailey, 1999, p. 56). Virtual teams benefit from their diverse membership of cross cultural, cross organizational nature, with wider access to more talent pools by which to draw information and knowledge (Kurland & Bailey, 1999, p. 64).

Research Parameters

This section presents the structured approaches used to frame the research design of this study. The early research process is documented in this section, and provides the basis that guides a strategy to conduct further searches framed by applicable criteria set up to evaluate the sources. All resources are evaluated with criteria described in this section, to determine if they are credible and relevant to the study, then results are documented (Luckey, 2008). The approach to data analysis is described in the Data Analysis Plan, and utilizes a type of content analysis, known as conceptual analysis (Busch et al., 2005). Finally, a description of how the literature is synthesized and presented in the Review of the Literature is presented in the Writing Plan.

This study is designed as a literature review, defined by Creswell (2009) as "locating and summarizing studies about a topic" (p. 29). The method involves a systematic approach of selecting and analyzing literature to identify the productivity and effectiveness requirements of teleworking MNC employees as they relate to job performance assessment factors. The initial search of accessible literature is guided by a preliminary set of questions about the current growth of telework, how technology is changing the way work is done, the relationship of teleworking to productivity, and the association of telework and career advancements. Emphasis during data analysis is on identification of the factors associated to this style of working in relation to productivity and effectiveness. Expertise, relevance and quality of each piece of literature is determined by the reputation of the published journal as well as the citations of other reputable works within the given subject that are then grouped into a literature map, "to provide a visual picture" (Creswell, 2009, p. 30) of how the information relates to the topic.

Literature Collection

As Creswell (2009) recommends, the study includes key words located within a preliminary set of readings found through search engines with "an initial focus on journals and books related to [this] topic" (p. 29). Two main search engines are used. First, the University of Oregon's Library OneSearch database, that is available to staff, enrolled students, and alumni to locate scholarly literature; second, Google Scholar, which is integrated with scholarly publications across various disciplines.

The literature found is skimmed for relevance and prioritized to determine quality and usefulness as it relates to this business topic (Creswell, 2009). Within the subject of business, the search includes journal articles, white papers and university studies, mainly from Academic Search Premier, Business Source Premier, EBSCOhost Electronic Journal Service, and JSTOR, using the keywords to access applicable content.

An additional methodology used in capturing literature involves following the chain of references within the white papers and other cited journal and articles, by conscientiously keeping track of specific sources that may not be readily available in order to go back and find them from a library or ordering them through University of Oregon.

Key words

Using the main key word telework or telecommute in combination with the other key words is essential to find related studies. There is a large amount of data and information to support the topic of teleworking, including numerous white papers and studies. However a search of data on this audience, MNCs within the high technology industry, for productivity and effectiveness requirements as they relate to the specific social and technology factors is essential

to further refine the study from general telecommuting and teleworker information. There is an initial assumption that similar factors are transferrable across various fields, so scope may focus on general MNCs.

Key words and search terms. References for the literature review are collected using key words and search terms are classified by the main topic and subtopics:

Key search terms.

- Large, multi-national corporation (MNC), organization
- Telecommute, telecommuter, telecommuting
- Telework, teleworker, teleworking
- Virtual teams, virtual working arrangements

Subtopic search terms.

1) The benefits of social and technological factors and the role of each one as it relates to performance assessments.

- Employee development
- Job satisfaction
- Performance assessments
- Results-orientation
- Social factors
- Social well being
- Technology changes
- Technology factors

2) The role that management and organizational support must play within telework policies as they relate to performance assessments.

- Alternative work and flexible work policies
- Career advancements
- Employee development
- Job performance evaluations
- Management support
- Organization adoption
- Organization support
- Performance measurements
- Results-orientation
- Traditional job assessments

Documentation approach. All full text documents are saved in the Mendeley and Zotero tools for future reference and to easily extract citations in APA format. Screen shots of specific pages, paragraphs and pages from applicable content are taken and saved in a Microsoft ® Word document along with notes, keywords and source information to provide a reference type document and for access during the data collection phase.

Quotes and paragraphs are saved along with a screenshot with references and tags in a separate Microsoft ® Word file to allow for quick reference of particular paragraphs, pages, or sections that may be useful later. Likewise, all documents and URLs are saved within tools such as Zotero and Mendeley that provide the ability to quickly capture and save author, title, abstract and other bibliography details provide and the ability to easily sort and filter the literature and references. Additional time is spent organizing these sources into categories within a Microsoft ® Excel file that provides a base to further refine results and track the pertinent key concepts and citing information. See Table 2 for a summary of the eligible results.

Table 2

Summary of Database and Search Engine Results

Database / Search Engine	Eligible Titles Found
• Google Scholar search engine	42
• IEEE Computer Science Digital Library, EBSCOhost, JSTOR, Academic Search Premier, Business Source Premier	9
• Mendeley	3
• OneSearch – University of Oregon Libraries Catalog	23

Search engines and databases.

- Academic Search Premier
- Business Source Premier
- EBSCO Host Research Databases
- Google Scholar search engine
- IEEE Computer Science Digital Library
- Mendeley
- OnseSearch – University of Oregon Libraries Catalog

Journals.

- (The) Academy of Business
- Academy of Management Proceedings
- Communications of the ACM
- IEEE Transactions on Professional Communications
- Information & Management

- Journal of Labor Research
- Journal of Management Information Systems
- Journal of Organizational Behavior

Authors

The key words, or search terms, derived from book and literature references within the academic databases listed, such as Business Source Premier, help control the search results. These terms are mined during the analysis of the accessible literature. Within the references used for the study, frequently cited relevant authors are noted. For example, Jack Nilles, who founded the terms for telecommuter and teleworker, is known in the industry as an expert, and has written numerous books and articles in the field of telecommuting and various other articles including one published by Fleming LTD (1998) http://www.davidflemingltd.com/commentary/Jack%20Nilles.htm.

Other experts in the field are referenced multiple times throughout the collected references, such as Ralph D. Westfall, a professor at Cal State Polytechnic the University, who has written numerous books in the field of teleworking or telecommuting and the article used as a resource in this study, *Does Telecommuting Really Increase Productivity?*, with research to support both the positive and negative impacts of telework to an employee's productivity. He is cited in various studies as an expert in the field of teleworking and provides definitions and information on telework from other experts in this field. McCloskey and Igbaria are also authors cited in various studies to provide data from the multiple studies they have written or contributed to, such as the McCloskey and Igbaria (2003) study referencing "the fear that telecommuting [has] a negative impact on career advancement prospects has been a barrier to telecommuting

acceptance" (McCloskey & Igbaria, Abstract), and Igbaria et al. (2003) *The Measurement of Telecommuting Performance*, identifying the low rate of adoption by companies related the difficulty of current measurement structures.

Data Analysis Plan

As explained by Busch et al. (2005), the conceptual analysis process is one of two types of content analysis that involves selecting key search criteria and using key words and phrases to determine if information within the sources located have meaningful context to the topic. In the first stage of data analysis, this process is used to locate the resources for the study, in addition to the example of authors acknowledged above in the Authors section. Key elements and phrases address teleworking productivity and effectiveness requirements, the traditional job performance assessment review process, how IT is changing the way work gets done, and the benefits and drawbacks that relate to telework as an alternative working arrangement. The outcome of the first stage of data analysis is reported in the Review of Literature section relating to the first identified theme, results-oriented job performance for teleworkers. This is followed by the second stage to result in a discussion of social and technology factors that influence two key requirements of results-oriented job performance, including productivity and effectiveness.

Each of these concepts from the selected literature is coded using both tagging practices in Word documents and tracked in an Excel spreadsheet, then noted in the Annotated Bibliography. The results are analyzed and synthesized to provide a set of social and technological factors related to results-oriented job performance assessments of a teleworker's productivity and effectiveness.

In the second stage of data analysis, terms and phrases identified in the first stage, that address social and technology factors related to teleworking, are used to guide a more detailed coding of the selected literature. Stage two involves identifying factors that pertain to the essential requirements that employees and managers working in large, multinational corporations (MNC) must consider in relation to the concept of assessing the job performance of teleworkers or telecommuters, from a results-oriented perspective. Implications for teleworkers on job performance assessments are also included in this stage. The following coding procedure is followed.

Coding procedures. These eight coding steps describe the details of the coding procedure selected for this study (Busch et al., 2005):

1. Level of analysis – Focus is on single words such as *telework* and *telecommute*, along with sets of words or phrases such as *results-oriented, productivity, effectiveness, social* and *technology* are coded.
2. Number of concepts for coding – Focus is on a pre-defined set of words and phrases relevant to the concepts of *productivity of teleworkers* and *telework effectiveness,* as well as *social factors of telework*, *IT changes and the effectiveness of teleworkers (or telecommuters)*, *management support of telework* and *teleworker results-oriented job performance assessments*. Throughout the coding process, additional and relevant key elements and concepts are revealed, that are also included.
3. Existence or frequency of a concept – Emphasis is placed on coding for the existence of concepts as opposed to coding for the frequency with which it appears. For example, the concept of *the productivity of teleworkers* is coded

once, even though it appears more often throughout the collected literature. Varied relevant descriptions of the concept of productivity, determined through contextual reading, are coded separately.

4. Level of generalization – Concepts that are analogous such as *telecommuter effectiveness* and *teleworker effectiveness* or *IT changes the way work is done* and *how advancements in IT are changing the work environment* are recorded as the same. However, if the terms are similar, but have different meanings such as *supportive work environments* and *alternative work support,* they are coded separately.
5. Translation rules – These rules are important to ensure the classification of concepts is consistent and the terminology is clear. For example, the social factors identified within the selected literature are specific to the well-being of the individual or team community and coded within the "social and technological factors" as well as "manager support" themes, as they relate to "productivity and effectiveness requirements." However social factors that relate to saving of environmental and natural resources are not used, as they are not applicable within this study.
6. Irrelevant information – When information does not support the purpose or influence the results, it is considered irrelevant and disregarded from the study (Luckey, 2009). Literature not immediately seen as useful is set aside for later examination, and possible coding (Luckey, 2009).
7. Code of texts – The coding process implemented in the second stage of coding is conducted in three phases. First, key concepts and phrases are identified and

assigned a sequential reference code (e.g. 1, 2, 3, etc.) and tagged in separate Word files. Secondly, key elements within the selected literature are copied into an Excel spreadsheet with headers to include a reference number and name, title of the article, key concepts, coding terms, author and year of publication. Then, these codes are later transferred to a Word document to provide a summary of results to align with the three main themes. Additionally, the key concepts are identified by a page number reference within the source, to easily refer back to the exact page of the intended concept.

8. Analyze results – A table populated with data from the coding process is analyzed by scanning for key factors, to include both pre-determined and emerging concepts to draw conclusions. The ideas and statements are classified and categorized based on themes outlined in the Writing Plan.

Writing Plan

Shin et al. (2000) express the idea that teleworking is "attracting a great deal of attention from both academics and practitioners because of its multifaceted implications for individuals and organizations" (p. 86). The Shin et al. study speculates that there are characteristics such as mature social structures and rapid technological progress that have lead to growth in knowledge producing jobs and virtual operations that demand this flexible working arrangement. As a result, large organizations are being required to review and expand their "understanding of the implications" (Shin et al., 2000, p. 86).

The writing plan provides a structure that follows the thematic approach described by Busch et al., (2005) as a way to organize the presentation of the information into a framework to

support the topic of the study. Information is organized based on three main themes that are at the center of the study, addressed through the overarching research question, supported by a set of underlying sub-questions. With this in mind, and as a response to the need for organizations to look at the impacts on their changing workforce, the study focuses on three themes (a) results-oriented job performance of teleworkers, (b) factors that influence the job performance of employees who telework with respect to the requirements of productivity and effectiveness, and (c) the institution of clear teleworking policies for results-oriented job performance (Barrett & Turtz, 1999; Deadrick & Gardner, 1999; Hoang, Nickerson, Beckman, & Eng, 2008; Hunton, 2005; Kossek et al., 2006; Lautsch & Eaton, 2006; Pinsonneault & Boisvert, 2001).

Questions related to each theme. The sub-questions below, first presented within the Outcome section, tie back to each theme above and are asked from the context and perspective of each theme to represent the factors of influence on results-oriented job performance assessments:

1) What are the social factors that managers should consider when assessing job performance of teleworkers related to the requirement of productivity?

2) What are the social factors that managers should consider when assessing job performance of teleworkers related to the requirement of effectiveness?

3) What are the technology factors that managers should consider when assessing job performance of teleworkers related to the requirement of productivity?

4) What are the technology factors that managers should consider when assessing job performance of teleworkers related to the requirement of effectiveness?

Annotated Bibliography

This Annotated Bibliography contains 24 key references selected for use in this study. There are 19 references that are chosen to form the coding set, during formal data analysis.

Allen, T. (2001). Family-supportive work environments: The role of organizational perceptions. *Journal of Vocational Behavior*, *58*(3), 414-435. doi: 10.1006/jvbe.2000.1774.

Abstract. The present study examines global employee perceptions regarding the extent their work organization is family-supportive (FSOP). Data gathered from 522 participants employed in a variety of occupations and organizations indicated that FSOP responses related significantly to the number of family-friendly benefits offered by the organization, benefit usage, and perceived family support from supervisors. FSOP responses also explained a significant amount of unique variance associated with work–family conflict, job satisfaction, organizational commitment, and turnover intentions above and beyond the variance explained by the number of family-friendly benefits available by the organization and supervisor support. Results indicated that FSOP mediates the relationship between family-friendly benefits available and the dependent variables of work–family conflict, affective commitment, and job satisfaction. FSOP also mediated the relationship between supervisor support and work–family conflict. The results underscore the important role that perceptions of the overall work environment play in determining employee reactions to family-friendly benefit policies.

Comment. This article is essential to the development of the Problem section of the study, in that it provides critical factors of employee and employer perceptions. The article utilizes data directly from hundreds of participants employed at various

organizations within varied demographics that directly fit within MNCs. The author, Tammy D. Allen, is a member of University of South Florida's Department of Psychology and portions of this research were presented at the 13th annual conference of the Society for Industrial Organizational Psychology, Dallas, Texas and the Academy of Management Meeting, Chicago, Illinois.

Alston, S.E. (1997). *The Decision to Telecommute*. (Masters Thesis). Simon Fraser University. (UMI No. 0-612-24082-7). Waterloo, Canada. Retrieved on November 6, 2010 from Google Scholar http://ir.lib.sfu.ca/bitstream/1892/8579/1/b18700615.pdf

Abstract. The present study investigated the decision factors that influence university faculty member's decision to telecommute. The theory of planned behavior, an extension of the Ajzen and Fishbein's theory of reasoned action, was used to model the decision process. It was hypothesized that the presence of young children in the home, and/or gender, would influence the decision to work at home, or at the university. Faculty at Simon Fraser University, British Colombia, Canada, were surveyed through the use of a traditional paper survey and a web based survey. The study demonstrated that telecommuting behavior can successfully be modeled using the theory of planned behavior.

Comment. This master's thesis is important as a source directly related to telecommuting and how specific factors influence the decision to include telecommuting as part of their work behavior. It is used throughout the Introduction to support the Problem, Research Delimitations, and foundational Definitions of this study. The author identifies hypothesis related to the reasons employees decide to telecommute and provides investigation into the biases and reports how conclusions are determined. It is slightly older than is desirable for purposes of this study but provides a good base of information for the introductory sections. The study is written as part of the author's master degree

requirements and includes acknowledgements to the reviews by the supervising faculty who provided the support required, with input and feedback along the way.

Baruch, Y. (2000). Teleworking: Benefits and pitfalls as perceived by professionals and managers. *Work*, 34-49. Retrieved on December 11, 2010 from http://web.ebscohost.com.libproxy.uoregon.edu/ehost/detail?hid=17&sid=bc5226d7-4118-420d-9191-f326c33c8ad4%40sessionmgr10&vid=1&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=buh&AN=3067684

Abstract. This study explores how teleworking is perceived by employees and highlights its possible benefits and pitfalls. Interviews with sixty-two teleworkers in five UK organisations provide a comprehensive view on this mode of work. In particular the study examines teleworking impact on effectiveness, quality of working life, and family life.

Comment. This article includes details on productivity and effectiveness of teleworkers and selected for inclusion in the coding set to support the two main requirements identified as they relate to results-oriented job performance. The author is a Professor of Management at Rouen Business School, France, and Middlesex University, UK. He is formerly a Professor at UEA Norwich UK and holding visiting positions at the University of Texas at Arlington, George Mason University, University of Canterbury, NZ and London Business School. He holds a B.Sc. in Electronic Engineering (Ben Gurion, Israel), M.Sc. and D.Sc. in Management and Behavioral Sciences (The Technion, Israel). After being a project manager in the high technology industry he began his career in the academia. He teaches graduate and undergraduate courses in the areas of organizational behavior and human resource management.

Butler, E. S., Aasheim C., & Williams, S. (2007). Does telecommuting improve productivity? *Communications of the ACM* . 50:101. Retrieved from Google Scholar on May 16, 2010 from http://portal.acm.org/citation.cfm?doid=1232743.1232773.

Abstract. Seeking solid evidence of demonstrable productivity gains: This study examines the effect of telecommuting on productivity by analyzing longitudinal data (spanning nearly five years) for call center representatives at Kentucky American Water Company (KAWC), a company serving over 280,000 people. Specifically, we sought to determine whether claims about telecommuting could be substantiated in the case of KAWC.

Comment. This article is essential to the study because it directly describes a productivity and telecommuting with supporting longitudinal data spanning nearly five years. The reference is included to support the definitions of productivity used by other experts and is selected for inclusion in the coding set of literature selected for data analysis. The participants involved fit within large organizations and the principles identified can be applied to various organizational positions. The study is fairly recent and is written by three professors within the Department of Information Technology and Information Systems at Georgia Southern University at Statesboro, GA. The authors cite well known experts within the field of telecommuting.

Cascio, W. F., (2000). Managing a virtual workplace. *Academy of Management Executive, 14*(3) 81-90. Retrieved on November 13, 2010 from http://www.slis.indiana.edu.libproxy.uoregon.edu/faculty/hrosenba/www/l574/pdf/cascio_virtual-workplace.pdf

Abstract. Virtual workplaces, in which employees operate remotely from each other and from managers, are a reality, and become even more common in the future. There are sound business reasons for establishing virtual workplaces, but their advantages may be offset by such factors as setup and maintenance costs, less of cost efficiencies, cultural clashes, isolation and lack of trust. Virtual teams and telework are examples of such arrangements, but they are not appropriate for all jobs, all employees, or managers. To be most effective in these environments, managers need to do two things well: Shift from a focus on time to a focus on results; and recognize that virtual workplaces, instead of needing fewer managers, require better supervisory skills among existing managers.

Comment. This study provides data to support the description of the Audience for the study by outlining specific job roles and job functions that are best suited for telecommuting within various industries. It is included in the coding set, and identifies specific advantages and disadvantages that both managers and employees can expect out of telecommuting as well as what it takes to get the best results from this type of alternative work structure. The author is Professor of Management at the University of Colorado at Denver with a research focus in staffing, training, and performance management. His economic impact of HR activities appeared in a number of scholarly journals and has consulted with more than 150 firms.

Doherty, S. T., Andrey J. C., & Johnson, L. C. (2000). The economic and social impacts of telework. *Self*, 73-102. Retrieved on November 13, 2010 http://naswa.northcomp.com/sections/pdf/2001/p1_4.pdf

Abstract. Telework raises a variety of issues for employers, employees, families, and communities. This literature review focuses on a specific set of economic impacts of

telework, primarily from an employee's perspective. This includes important social implications that are not directly measured in economic terms but have an indirect effect on household, regional and national economies. This review provides a survey of these issues and assembles research findings from a range of international and multi-disciplinary sources in an effort to assess potential impacts, future trends and challenges.

Comment. This literature review is important to the study to provide support for the social implications that are related to teleworking. The perspectives of employees are provided to support the Significance section of the study. It also addresses performance measurement challenges and the indirect impacts which provide additional data for the coding set. The authors are all Ph.D Associate or Assistant Professors at respected universities. The acknowledgements represent that the study is peer reviewed and it contains multiple references found in other studies.

Golden, T. D. (2006). The role of relationships in understanding telecommuter satisfaction. *Journal of Organizational Behavior*, *27*(3), 319-340. doi: 10.1002/job.369.

Abstract. Relationships are fundamental to organizational functioning, yet as telecommuting and other forms of virtual work become increasingly popular, research has not yet focused on how the virtual context might alter relationships so as to impact important work outcomes. This study therefore examines the role relationships play in mediating the link between the extent of telecommuting and job satisfaction. In doing so, three fundamental types of relationships maintained by employees are investigated—those with managers, coworkers, and family. Regression analysis of field data from 294 telecommuting employees in a large telecommunications company revealed the

anticipated inverted U-shaped relationship, mediated by leader-member exchange quality, team-member exchange quality, and work-family conflict.

Comment. The information presented in this study is essential to the study at hand as it provides the critical connection between the social factors specific to relationship building and the effects telework can play on them. Also included are direct challenges teleworkers and employers face and the critical role of technology in this type of working arrangement and job satisfaction. This study is used in the coding set selected for data analysis. The author is an Assistant Professor of Management in the Lally School of Management and Technology at Rensselaer Polytechnic Institute with a research focus in technology-enabled interactions such as telecommuting and other forms of virtual work, with various published works on the subjects in reputable journals, which provides an implied level of credibility.

Golden, T. D. (2004). Unraveling telecommuting and satisfaction: Towards a relational view. *Academy of Management Proceedings*. p.F1-F6, 6p. Retrieved November 6, 2010, from EBSCOhost: http://web.ebscohost.com.libproxy.uoregon.edu/ehost/pdfviewer/pdfviewer?vid=8&hid=111&sid=c04fec5d-ee82-4607-9c3f-c9b90149e5b6%40sessionmgr115

Abstract. There is a growing popularity of telecommuting, but more research is needed to identify both positive and negative aspects of this arrangement. This literature reviews a theory and hypotheses of social and environmental aspects of telecommuting.

Comment. This article identifies factors related to the importance (or un-importance) of face-to-face interactions between employees and managers or employees and peers, which is used to build support for the Problem section. It also included in the set of

references selected for coding, as it provides on advantages and disadvantages of teleworking. The author is an Assistant Professor of Management in the Lally School of Management and Technology at Rensselaer Polytechnic Institute with a research focus in technology-enabled interactions such as telecommuting and other forms of virtual work, with various published works on the subjects in reputable journals, which provides an implied level of credibility.

Hartman, R. I., Stoner, C. R., & Arora, R. (1992). Developing successful organizational telecommuting arrangements: Worker perceptions and managerial prescriptions. *Business Source Premier*, *57*(3), 35-42. Retrieved from http://web.ebscohost.com.libproxy.uoregon.edu/ehost/detail?vid=1&hid=119&sid=ce7161c9-c2c7-48a3-b6ec-bba7d3d81f42%40sessionmgr112&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=buh&AN=4615530.

Abstract. Discusses the implications of the task of acquiring, developing, motivating, and maintaining a high quality workforce in the United States in the 1990s. Implications of the lack of a generally accepted definition in telecommuting; Dynamics of organizational telecommuting; Details of the telecommuting productivity.

Comment. This journal article is essential to the study as it provides information related directly to employees (mainly professionals within the high technology industry) and addresses specific topics such a teleworker satisfaction and productivity and also satisfaction with performance evaluations and supervisory support. It is selected for inclusion in the coding set. The article is published in the reputable journal, Society for

Advanced Management Journal, and is written by authors from both Bradley University and University of Missouri-Kansas City.

Hoang, A. T., Nickerson, R. C., Beckman, P., & Eng, J. (2008). Telecommuting and corporate culture: Implications for the mobile enterprise. *Clean Air*, *7*, 77-97. Retrieved from http://content.ebscohost.com/pdf9/pdf/2008/5RG/01Mar08/33410180.pdf?T=P&P=AN&K=33410180&EbscoContent=dGJyMNHX8kSeqK44zOX0OLCmr0ieqLBSsay4Sa6WxWXS&ContentCustomer=dGJyMPGuslGwrbVNuePfgeyx%2BEu3q64A&D=aph.

Abstract. Enterprise mobility includes at home work often called telecommuting. Although telecommuting has been highly touted for a number of years, its adoption has seen varying levels of success. Earlier studies indicated that corporate culture might be a deterrent to the acceptance of the practice. The purpose of this research is to re-investigate the impact of corporate culture on telecommuting. This paper reports the results of a survey of business professionals and managers regarding perceptions of corporate culture toward telecommuting. The main conclusion of the paper is that corporate culture is still a deterrent to telecommuting in many organizations. The results have implications for management, workers, and organizations moving toward a more mobile enterprise.

Comment. This article provides insight into the world of mobile technology and how both social effects and technology considerations play a significant role in the telecommuting within organizations. The data is gathered from survey statements based on questions directly related to organizational support of teleworking and employee perceptions in the affects on performance. This article is used in the coding set selected for data analysis, and is one of the most current sources found related to the topic. The

authors are all Associate Professors and Professors within the University of San Francisco, College of Business, with experience in the high technology field of computing.

Hunton, J. E. (2005). Locations: Interrupting interruptions! *Journal of Information Systems*, *19*(2), 111-140. Retrieved on November 27, 2010 from http://content.ebscohost.com/pdf17_20/pdf/2005/JIN/01Sep05/18804630.pdf?T=P&P=AN&K=18804630&EbscoContent=dGJyMNHX8kSeqLU4zOX0OLCmr0iep7BSs6u4SrKWxWXS&ContentCustomer=dGJyMPGuslGwrbVNuePfgeyx%2BEu3q64A&D=aph

Abstract. This study examines the impact of alternative telework strategies on professional and personal outcomes. The research design is a longitudinal between participant's field experiment with two manipulated factors: satellite office space available (no, yes) and downtown office space available (no, yes). In all four conditions, participants could telework from home. The design incorporated a fifth (control) condition with no telework, reflecting current company policy. One hundred sixty medical coders from a large health care company participated in the experiment. Archival data recorded work locations, task interruptions, quality adjusted task performance, and employee retention, while the experience sampling method (ESM) captured cognitive and affective responses. The findings help to explain the social dynamics of work location autonomy in the rich ecological settings of employees' organizational and personal environments.

Comment. This study provides information on previous studies and identifies specific hypothesis related to the motivations and behaviors of teleworkers. The purpose is to determine the most effective telework policy for a company, and combines the pertinent

aspects using specific methods and conditions to determine the recommended outcome. The author provides a detailed analysis of the data presented which support the aspects of productivity requirements related to the study and is used for the coding set. The author, James Hunton, is the Darald and Juliet Libby Professor of Accounting at Bentley University, and Research Professor, Accounting and Information Management, at Universiteit Maastricht, The Netherlands. He studies the behavior of key players in the financial market—auditors, financial analysts, corporate CFOs and CEOs and corporate boards of directors.

Igbaria, M., Devin. P.W., & Cheon, E. (2002). The measurement of telecommuting performance. *Idea Group Publishing,* pp.186-209. Retrieved on May 9, 2010 from http://books.google.com/books?hl=en&lr=&id=fcfopILjW6MC&oi=fnd&pg=PA186&dq=Miller,+Productivity+measurements+and+telecommuting&ots=maIcw5Bwxs&sig=7AqHhWbD6rfQDKm2Q_bK6eLu4pc#v=onepage&q&f=false

Abstract. Telecommuting provides various benefits to a number of constituents. However, the rate of telecommuting implementation is low due to the difficulty of measuring telecommuting performance. A new approach is needed to measure telecommuting activities. This paper analyzes the characteristics of telecommuting in order to establish a clearer understanding of the many facets of telecommuting. Based on this analysis, a conceptual framework for measuring its performance is presented.

Comment. This article examines both telecommuters and non-telecommuters with respect to turnover intentions and differences in career success outcomes of telecommuters and non-telecommuters. The data provided is useful from the perspective of how performance assessments are used to determine a teleworker's success. This study

involves mostly professional sales people, which is not directly related to the audience of the study herein, but the concepts are likely transferrable and provides good insight into the relationship to job performance and productivity measures used to support the problem and focus of the study. The authors both have a long list of credentials. Igbaria is a Professor of Information Science at the Claremont Graduate University and at the Faculty of Management. His current interests are in or related to virtual workplace, IS personnel, management of IS and computer technology acceptance, and has published numerous articles within this context. Additionally, Guimareaes has a Ph.D. in MIS fron the University of Minnesota and an M.B.A. from the California State University, Los Angeles. He has been a keynote speaker at numerous national and international meetings sponsored by very reputable organizations, such as American Society for Quality Control, IEEE, ASM, and Sales and Marketing Executives and has been a consultant with many leading organizations to include high technology organizations such at AT&T and IBM.

Kossek, E., Lautsch, B., & Eaton, S. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work–family effectiveness. *Journal of Vocational Behavior*, *68*(2), 347-367. doi: 10.1016/j.jvb.2005.07.002.

Abstract. We examine professionals' use of telecommuting, perceptions of psychological job control, and boundary management strategies. We contend that work–family research should distinguish between descriptions of flexibility use (formal telecommuting policy user, amount of telecommuting practiced) and how the individual psychologically experiences flexibility (perceived control over where, when, and how

one works, boundary management strategies regarding separation between work and family roles). Survey and interview data were collected from 245 professionals in two Fortune 500 firms with telework policies. Employees who perceived greater psychological job control had significantly lower turnover intentions, family–work conflict, and depression. Boundary management strategies higher on integration were positively related to family–work conflict. Although we found a main effect for formal policy use and higher depression, an interaction existed where women users with children had lower depression. Formal use positively related to supervisor performance ratings. Future research should distinguish between descriptive use and psychological experiences of flexibility.

Comment. There is evidence provided by this study to suggest that psychological experiences play an important role in teleworking that are tied to the well-being of the individuals and provides examples that are used to support the social factors within the study. It also provides significant support for higher performance, but also the need for boundary management. This is used to build the design of the study and as part of the coding set. The article is published in the Journal of Vocational Behavior that publishes empirical and theoretical articles that expand knowledge of vocational behavior and career development. Research presented in the journal encompasses the general categories of career choice, implementation, and vocational adjustment and adaptation. The articles contribute to a theoretical understanding of career choice and vocational adjustment and are also valuable for applications in counseling and career development programs in colleges and universities, business and industry, government, and the military (SJR — SCImago Journal & Country Rank, 2007). All three authors are

identified as scholars within various Universities with the data analysis being overseen by a Project Manager.

Kurland, N. & Egan, T. (1999). Telecommuting: Justice and control in the virtual organization. *Organization Science, 10*(4) 500-513. Retrieved on November 20, 2010 from http://www.jstor.org.libproxy.uoregon.edu/stable/pdfplus/2640368.pdf?acceptTC=true

Abstract. The adoption of telecommuting raises concerns for both managers and employees: Remote supervision presents monitoring challenges, while physical isolation may impede the employee's opportunity for, and involvement in, determining valued organizational outcomes (organizational justice). This study of 191 employees examined the relationships among telecommuting, organizational monitoring strategies, and organizational justice perceptions. Results suggest that monitoring strategies were more strongly associated with organizational justice perceptions than with telecommuting, and procedural and interactional justice perceptions related significantly to telecommuting. We provide implications, limitations, and ideas for future research.

Comment. This article provides information on an important aspect of the study related to the role of managers and the role of organizational support for telework programs and their connection to teleworkers performance, as it relates to monitoring strategies. It is used to build the topic focus and support for definitions, and included in the coding set. It is published through JSTOR as part of *Organizational Science* by authors who are both assistant professors at California universities; their affiliations lend credibility.

McCloskey, D.W, & Igbaria, M. (2003). Does "out of sight" mean "out of mind"? An empirical investigation of the career advancement prospects of telecommuters. *Information Resources Management Journal*, *16*(2) 19-34. Retrieved on November 15, 2010 from

http://find.galegroup.com/gtx/infomark.do?contentSet=IAC-Documents&docType=IAC&type=retrieve&tabID=T002&prodId=AONE&docId=A177274224&userGroupName=s8492775&version=1.0&searchType=AdvancedSearchForm&source=gale&infoPage=infoMarkPage

Abstract. Relationships are fundamental to organizational functioning, yet as telecommuting and other forms of virtual work become increasingly popular, research has not yet focused on how the virtual context might alter relationships so as to impact important work outcomes. This study therefore examines the role relationships play in mediating the link between the extent of telecommuting and job satisfaction. In doing so, three fundamental types of relationships maintained by employees are investigated—those with managers, coworkers, and family. Regression analysis of field data from 294 telecommuting employees in a large telecommunications company revealed the anticipated inverted U-shaped relationship, mediated by leader-member exchange quality, team-member exchange quality, and work-family conflict.

Comment. This study focuses on data gathered through a sample of survey responses from a large multinational, technology organization to identify the direct and indirect effects of telecommuting on career advancements. There are seven proposed hypotheses resulting in both positive and negative impacts. The research focuses on professional employees only, to align with the study audience and the data presented provides clear examples to support the defined definition. It is selected for inclusion in the coding set, particularly to support the sections on telework and job performance results as well as addressing the fears teleworkers face related to career advancements. The study is co-authored. McCloskey holds advanced degrees from a prominent university and is an

assistant professor of MIS in the School of Business Administration with a research focus on technology acceptance and the impact of technology on changing work roles. Igbaria is now deceased but was a professor and held a Ph.D. in Computers and Information system. Both have published articles in their fields of study.

Neufeld, D. J. & Y. F. (2004). Predicting telecommuter productivity. *37th Annual Hawaii International Conference on System Sciences, 2004. Proceedings of the*, *00*(C), 43-52. Ieee. doi: 10.1109/HICSS.2004.1265160.

Abstract. Productivity of remote workers is of critical concern to organizations contemplating telecommuting work arrangements. This paper suggests a general theoretical framework for understanding telecommuter productivity. Based on semi-structured interviews with 32 telecommuters, we found that telecommuting productivity was positively associated with beliefs and attitudes, social factors, and situational factors, and unassociated with individual factors. Implications and future research directions are discussed.

Comment. The content provided by this article is essential to support the productivity requirements as a part of the coding set for the study. It also connects social factors that are important to relate to the productivity, which is also clearly defined and used in the Definitions section. This study is published in an international conference proceeding by authors who attended the Richard Ivey School of Business, The University of Western Ontario. Neufeld is an assistant professor of information systems with a PhD with focused works on IT-facilitated distributed work arrangements; Fang is a doctoral candidate with a focus of research on knowledge management, IT-mediated teamwork and the virtual organization. Both have published works that have appeared in THE

DATA BASE for advances in Information Systems and the International Conference on Information Systems.

Ozcelik, Y. (2010). The rise of teleworking in the USA: Key issues for managers in the information age. *International Journal of Business Information Systems, 5*(3), 211-229. Retrieved on November 4, 2010, from http://portal.acm.org/author_page.cfm?id=81456618745&coll=DL&dl=ACM&trk=0&cfid=111802980&cftoken=25273543

Abstract. Teleworking is a work arrangement by which a corporate employee regularly works at an alternate worksite, such as the employee's home or a satellite office, by using Information Technology (IT) and the internet for collaboration. Many companies in the USA have successfully adopted teleworking as part of their employment policy and it may continue to be a business trend due to the prevailing financial turmoil that forces companies to cut costs while achieving operational excellence. In this paper, we first identify the major historical factors that have favoured teleworking in the USA for the past two decades. We then highlight certain benefits and risks of teleworking for employees, businesses, the society and the economy. We make several managerial and technical recommendations for corporate managers regarding a successful initiation and execution of teleworking projects. Finally, we contemplate on the future of teleworking under the light of advancements in IT and the internet.

Comment. This study is essential to the study as a very recent set of information on the effects and use of IT to alternative working arrangements and how today's jobs are changing based on advancements in technology. This is a useful resource to provide current statistical information of the rise in telework programs, and numerous examples

of specific large organizations that currently practice and support teleworking. This article provides insight and examples of real world situations to include major benefits as well as drawbacks. It also includes managerial and technical issues that are part of the coding set of the study. The content is written based on the same perspective of telework definitions as used in this study. The author is an Assistant Professor of Information Systems and Operations Management at the Dolan School of Business, Fairfield University, Connecticut, USA. He obtained his Ph.D degree in Management Information Systems and master's degree in Economics both from Purdue University and has numerous published articles in the field of telecommunications.

Pinsonneault, A. & Boisvert, M. (2001). The impacts of telecommuting on organizations and individuals: A review of the literature. 162 -184. doi: 10.4018/978-1-878289-79-7.ch010

Abstract. Through a review of the literature, this chapter identifies the impacts of telecommuting on organizations and employees and provides recommendations concerning the management of telecommuting. Key success factors of telecommuting programs, such as choosing the right jobs and employees, managerial attitude and expertise, are identified and discussed. Finally, this chapter presents several essential steps that organizations should follow when implementing a telecommuting program.

Comment. This literature review is used in the introduction sections to support the Significance and the Outcome in the identification of the factors used in the study. It provides data that connect the employees and manager positions along with keys for success. It is selected for inclusion in the coding set. The authors are often cited in other studies and Pinsonneault is the Imasco Chair of information systems and James McGill Professor in the Desautels Faculty of management at McGill University. His current

research interests include the organizational and individual impacts of information technology, user adoption of technology. He has published papers in Management Science, Management Information Systems Quarterly, Information Systems Research, organization science, the Journal of Management Information Systems and various other respected journals. He worked in conjunction with Boisvert, who it the President for SIX, Inc., a technology corporation.

Platt, R. G. & Page D. (2001). Managing the virtual team: Critical skills and knowledge for successful performance. pp.130-147. Retrieved on November 13, 2010 from http://www.dtic.co.cu/FTP/libros/TELECOMMUTING%20AND%20VIRTUAL.pdf#page=130

Abstract. Expectations for manager and employee workplace relationships are changing because of telecommunications technology. Telecommuting allows organizations to effectively combine and use the skills and knowledge of off- and on-site employees. The focus of this chapter is to describe the unique environment and problems presented by virtual teams and to outline the skills and knowledge employees and managers must have so they can achieve team and organizational goals.

Comment. This article includes important concepts regarding team collaboration to support the context within the focus of the study. It also provides insight into the requirements of technology in support of virtual teams and its relationship to productivity. It is part of the coding set. The authors are both associate professors at the University of West Florida, MIS with published works on the topic of virtual teams.

Potter, E. E., (2005). Telecommuting: The future of work, corporate culture, and American society. *Journal of Labor Research, 24*(1) 73-84. Retrieved on November 15, 2010 from http://www.springerlink.com/content/bd5h6t10b9x4f97m/

Abstract. A review of the rapidly increasing portion of the workforce that telecommutes from home or at a location remote from the central workplace at least one day a week, with an increase in the request as a benefit. Due to the surge in interest in telecommuting, employers are facing new challenges that are protective of maintaining the corporate culture, supervisor-employee relationship, and safeguard network security and safe data handling.

Comment. This article, published within the Journal of Labor Research, included essential elements to build the Problem section related to evaluating the importance of the relationships between managers and employees. It also includes discussion on the benefits related to social and technology factors as well as negative implications to the organizational health. It is selected for inclusion in the coding set. The author is president of the Employment Policy Foundation and co-author of Keeping America Competitive: Employment Policy for the 21st Century (1995) and has other published works related to changes within the workforce.

Scott, C. R. & Timmerman, C. E. (1999). Communication technology use and multiple workplace identifications among organizational teleworkers with varied degrees of virtuality. *IEEE Transactions on Professional Communication*, *19*(4), 539-260. doi: 10.1109/47.807961.

Abstract. Although over 11 million virtual workers in this country are classified as teleworkers, we know relatively little about them. Drawing on the construct of telepresence, the relationships among four sets of variables seem especially important: actual communication technology use, identifications with aspects of work, degree of virtuality, and various teleworker demographic characteristics. A survey of 86 teleworkers in a wide range of organizations revealed that basic telephone and voicemail are the most frequently used and most vital communication technologies; however, several differences in technology use based on message content and interaction partners also exist. Additionally, moderately virtual teleworkers are more identified with their work team, organization, and occupation than are those who telework small or large portions of their work week. Also, use of advanced phone technologies is most predictive of organizational and occupational identification. Among the implications discussed are equipping teleworkers with appropriate communication technologies and establishing telework programs where workers are only virtual for a portion of the work week.

Comment. This article provides a conceptual view of the changes in the workplace within organizations and the importance of providing organizational support to teleworkers from a technology perspective. The article is somewhat out-dated from a technology point of view, but some of the concepts are still valid and thus it is used in the coding set. The two authors are part of the Department of Communication at The University of Texas at Austin, one a professor and the other a Doctoral Candidate at the time of writing and now an associate professor at the University of Wisconsin-Milwaukee. Both have published articles in various educational, communication, and research journals.

Shin, B. (2003). Telework effectiveness: Task , technology and communication fit perspective. *San Diego State University*, pp. 1-13. Retrieved from http://www.irma-international.org/downloads/excerpts/2003/KangasEx.pdf.

Abstract. We are witnessing rapid growth of inter and intra-organizational telework in many different forms: distributive project teams, telecommuting, mobile work, business to-employee, employee e-business, and virtual corporations. Despite the increasing prevalence of distributive work and its importance in creating business value, our understanding of its success factors is limited. Among many prospective factors, task characteristics, communication quality, and technology support have been mentioned frequently as key components for successfully running telework. Communications quality and technology support seem the direct result of operational design in managing the virtual process; while task characteristics of workers are typically pre-determined, unless they are modified for telework. This paper discusses the implications of chosen variables on telework success from a fit theory perspective. It focuses on examining the implications of two- and three-way alignments among task characteristics communications quality, and technology support on in a distributive work setting.

Comment. This article is included in the coding set to support specific technology factors along with components related to the management and organizational requirements for successful telework. The author, Bongsik Shin, is a professor at the Department of Information and Decision Systems at San Diego State University. He earned a Ph.D. from the University of Arizona and has taught computer networking, electronic commerce, data warehousing, and statistics. His research interests include IT-driven business

models, electronic and mobile commerce, and research methodology. His work has been accepted or published in numerous business and technical journals.

Shin, B., Sawy, O. E., Sheng, O. R. L., & Higa, K. (2000). Telework: Existing research and future directions. *Journal of Organizational Computing and Electronic Commerce*, *10*(2), 85-101. doi: 10.1207/S15327744JOCE1002_2.

Abstract. A review of the relevant literature and a characterization of existing telework research directions. Conducted from three angles: the research methodology the focus of existing telework studies and the research paradigm.

Comment. This article provides important context for the introduction section specifically within the purpose and the writing plan as it relates to the need to understand telework within the organization to include both social and technology related aspects. It is also included in the coding set to support the main factors and themes within the study as they related to organizational support of telework. The article is published in a business and computing journal, and is written by three authors from large universities within the business schools.

Staples, D. S. (2001). Making remote workers effective. *Safety And Health*, 186-212. Retrieved on November 12, 2010 from http://www.dtic.co.cu/FTP/libros/TELECOMMUTING%20AND%20VIRTUAL.pdf#page=185

Abstract. Research conducted to identify two things: (1) the key issues of working and managing remotely, and (2) the activities that employees and managers should do to increase the effectiveness of remote employees. Three major categories of activities were identified. The first deals with the employee's ability to carry out the right tasks and the

manager's ability to assess the employee's effectiveness. The second category reflects the essential role information technology plays in enabling remote work. The third category deals with the employee's need for advice and support. Suggestions are provided for how organizations can make the activities more common.

Comment. This article is essential to build the introductory sections of the study to set context for the Purpose and Problem section. It also includes specific information and examples to identify points with relation to teleworker effectiveness and a manager's ability to appropriately assess the effectiveness of the teleworking employee to support the guiding questions sections. The text is from a chapter within the book *Telecommuting and Virtual Offices: Issues & Opportunities*, published through Idea Group, Inc. that publishes scholarly and professional books on information technology in addition to journals.

Review of the Literature

This study reviews a set of selected literature related to the topic of telework. Focus is on the social and technology factors that pertain to two essential requirements, productivity and effectiveness, that employees and managers who work in large MNCs must consider in relation to results-oriented job performance. Throughout the research for this study telework is found to be defined in multiple ways, but for purposes of this study, telework relates specifically to "organizational work performed outside the normal organizational limits of space and time, supported by computer and communication technologies" (Stratigea & Giaoutzi, 2000, p. 332).

Data analysis is based on identification of key words and phrases within the selected literature, which adheres to the conceptual analysis process to provide meaningful context to the topic (Busch et al., 2005). The coding procedures as described by Busch et al. (2005) and outlined in the Data Analysis Plan section of the study provide the basis for the analysis and results. The goal is to identify the most significant elements the audience can use to distinguish what job performance assessment factors are critical in relation to productivity and effectiveness requirements, for teleworking employees within MNCs.

The focus of the study is on the overarching question of how managers rate employees who telework with respect to the requirements of productivity and effectiveness, and what the implications are for performance assessments in general. Results of the data analysis are provided below, in relation to three central themes (a) results-oriented job performance for teleworkers, (b) factors that influence the job performance of teleworking employees with respect to productivity and effectiveness requirements, and (c) the institution of clear teleworking policies for results-oriented job performance (Bailey & Kurland, 2002; Barrett &

Turtz, 1999; Deadrick & Gardner, 1999; Hill, 2003; Hoang, Nickerson, Beckman, & Eng, 2008; Hunton, 2005; Kossek et al., 2006; Lautsch & Eaton, 2006).

A Results-Oriented Job Performance Review System for Teleworkers

Results-oriented job performance, as described by Wholey (2003), is a management approach used to attain "measurable progress toward outcome-related goals" (p. 42). It establishes trust by integrating managers and employees to mutually set and agree upon clear goals and strategies that refer back to results, joint decision making, and to reciprocally monitor and evaluate the results (Wholey, 2003). Employee performance is defined by Deadrick and Gardner (1999), as "the record of outcomes achieved, for each job function, during a specified period of time" (p. 227). In this representation, performance is viewed as "a distribution of outcomes achieved, and performance is measured using a variety of parameters that describe an employee's pattern of performance over time" (Deadrick & Gardner, 1999, p. 227). The results-oriented system, explained by Deadrick and Gardner (1999), employs both managers and employees to contribute, problem-solve, and work together in activities that are necessary to achieve a quality outcome (Deadrick & Gardner, 1999). By involving employees in the process, there is opportunity to identify and address the broad range of system factors that constrain and/or enhance job performance for teleworkers, and therefore, update goals based on the current job functions (Deadrick & Gardner, 1999). Primary elements of a results-oriented job performance review system are described below.

Element #1: Establish agreement on goals and objectives. Building the key objectives to be accomplished in a job requires identifying the intended outcome, establishing the goals, and identifying any factors that could affect achievement of the goals. In the results-oriented system,

the process to accomplish the anticipated outcome requires a partnership between the employees, in this case a teleworker, and their supervisor to mitigate the factors that could influence or affect the results (Wholey, 2003). Deadrick and Gardner (1999) specify that each outcome "must be explicitly defined in qualitative (behavioral) or quantitative (results) terms" (p. 227). Barrett and Turtz (1998) describe this process as establishing ownership of small pieces of the larger vision for employees. Effective goal-setting creates a collaborative partnership between an informed employee and management that can be viewed as milestones within the bigger picture (Barrett & Turtz, 1998). As an example for teleworkers, a particular job function such as communication requires a specific level of results in which the teleworker and management must agree on in order to obtain the desired and acceptable results. Kurland and Egan (1999) illustrate that in order for a teleworker to avoid needless work and to stay in tune with a dynamic work environment, the telecommuter must incorporate a collaborative communication plan with colleagues to keep abreast of changing decisions.

Element #2: Employ collaborative decision making. The strategies defined in the goal setting stage require both manager and employee discussion in decisions that require collaboration, particularly in a complex environment (Deadrick & Gardner, 1999; Wholey, 2003). Kurland and Egan (1999) provide examples that specify the importance for managers and teleworking employees to pre-determine the criteria for when decision making must be face-to-face or when technology based communication is used for the most effective results. Kurland and Egan (1999) identify the need for less formal and more spontaneous communication patterns as a way to convey information and make swift decisions. Deadrick and Gardner also express that the periodic joint problem-solving activities among employees and managers promote trust and "an environment of cooperation and empowerment" (Deadrick & Gardner, 1999, p. 229).

According to Raghuram, Wiesenfeld and Raghu (2000), the use of technology can often times provide rapid and efficient results by establishing direct linkages to managers and colleagues through maintaining frequent communications and aid in organizational connection (Raghuram et al., 2000). Barrett and Turtz (1998) describe results-oriented decision making as a process that often involves functional teams, since complexity in the workplace require input from a collection of people. They also state that the use of technology (e.g. online and video conferencing) "make decision making more inclusive" (p. 289) for teleworkers and empower employees by opening the lines of communication (Barrett & Turtz, 1998). Teleworkers also have an advantage in the decision-making process as Barrett and Turtz's study find that in some instances face-to-face decision making may lessen the empowerment of employees, particularly those in junior positions.

Element #3: Monitor and evaluate results. Results-oriented job performance measures play a central role in job assessments and evaluations to provide regular feedback on results (Wholey, 2003). Wholey (2003) describes multiple types of measurement systems such as comparisons of outputs to outcomes from performance targets, manager and peer reviews (360 degree), and validating performance data. Results evaluations, according to Wholey, should demonstrate results, tie to a few vital and key responsibilities, and include timely data. Accountability to the goals is an essential ingredient of job performance assessment success, as reviewed by Wholey, in addition to using the job performance information to make necessary adjustments to subsequent goal setting processes. In the case of teleworkers, Baruch (2000) points out the condition for measurements to be based on results and output as opposed to being there, and 'without the necessity of physical presence" (p. 46). This concept corresponds with the points made by Kurland and Egan (1999) that job performance measures for teleworkers be

based on an "equitable assessment of one's work efforts and contributions" (p. 503) instead of a supervisor's observation of daily behavior.

Rogers et al. (2002) provide that organizations mainly use the 360 degree process (stakeholder, manager, subordinate, and peer reviews) for individual employee development planning and coaching. This process coincides with the evaluation of the goals and results-oriented job assessment for participants who are required to work across boundaries and out of a supervisors reach, such as teleworkers (Rogers et al., 2002). According to Rogers et al., the 360 degree process "provides participants with information on how they manage, work with others, and get results" (p. 46). The principles of this process are designed to align with the goals that lead to the accomplishment of objectives agreed to by teleworkers and managers (Rogers et al., 2002). The Rogers et al. study identifies the results of 360s to be more meaningful when they "focus on the right competencies" (p. 48), to highlight once again the important parallel with the initial goals and strategies. Rogers et al. discuss the importance of trust within the 360 degree process to allow participants to fully engage and provide honest, meaningful and useful feedback that will ultimately benefit both the teleworkers and MNC organizations. Longenecker and Gioia (1987) state that "if the manager and employee have a trusting and open relationship and shoot straight with each other, then the manager is less likely to play games with results" of job assessment information.

Element #4: Create a culture of trust and empowerment. Trust and empowerment are created by a results-oriented job performance program to include effective communication through technologies among the organization (Barrett & Turtz, 1998). Organizations where there is a culture of trust among managers, teleworkers, and their peers will also increase the level of knowledge, coordination, and collaboration (Barrett & Turtz, 1998). Similarly, Baruch (2000)

states that an environment where employees are measured by results rather than by attendance relies on a "culture of trust from both managers and peers of teleworkers" (p. 45) and that the influence of the organizational culture may affect the individual's job performance. The level of influence will develop when an individual becomes central to the overall network and in turn will have greater job satisfaction (Barrett & Turtz, 1998).

A major component in developing trust, as described by Barrett and Turtz (1998), are top managers who lead the changes in organizational attitude and allow employees to perceive empowerment. They illustrate that "trust creates the foundation for inclusive decision making, goal development and shared responsibility for outcomes" (Barrett & Turtz, 1998, p. 276). When there is a higher level of trust, the level of dialogue between managers and employees will also increase for improved productivity and effectiveness (Rogers et al., 2000). However, as Staples (2001) presents, although the need for trust is essential in managing teleworkers, trust goes against the traditional managerial need for observable control that believes, "control and efficiency are closely linked and that control is necessary for efficiency" (p. 188). Trust is developed through informal activities and communication as well as delivering results (Staples, 2001).

Factors that Influence Key Requirements

A results-oriented job performance review system for the study is grounded in an analysis of two key requirements, including productivity and effectiveness. As previously described, based on this researcher's professional experience, both productivity and effectiveness are impacted by a teleworker's work environment in conjunction with results-oriented job performance criteria. The questions asked within this study are framed to address social and

technology factors that managers should consider as they each relate to productivity and effectiveness requirements. Hartman et al. (2001) address positive and negative social and technology themes from workers reporting directly on their first hand telecommuting experiences. There is a need to provide greater structure for behavior in the context of teleworking, which brings into focus the relevance and social aspects of self-efficacy (Raghuram et al., 2003). The 2001 study by Staples surmises that "[a]dvances in information technology (IT) make it possible for more people to work remotely from their main office, co-workers, and managers" (p. 186). The Raghuram et al. (2003) study also suggests that the linkage of both social and technology factors, such as teleworkers using technology to improve their communication within the organization, may aid in their job performance.

Requirement #1: Productivity

Westfall (2004) suggests that "productivity can be measured based on four factors: amount of work; intensity of work; efficiency of work; and adjustments of additional cost (*note-costs are not further discussed in this study*) associated to telecommuting" (p. 94-95). Miller (2008) describes productivity as *"*the amount of output produced in a specific amount of time" (para. 3). "The most commonly cited advantage of teleworking is an increase in productivity" (Alston, 1997, p. 9). Alston explains the main reasons for this being fewer interruptions, better focus and concentration, as well as improvements in technology.

There are examples of MNCs that have reported large productivity gains such as AT&T that claimed "increases in productive hours, resulting in cost savings for the company of up to $65M per year" (Ozcelik, 2010, p. 217). Additionally, "American Express teleworkers are reported to produce 43% more business than their office workers…and Dow Chemical also reported 32.5% increase in productivity due to teleworking" (Ozcelik, 2010, p. 217). According

to Bailey and Kurland (2002), "87 per cent of employees in IBM's alternative workplace program report that they believe productivity and effectiveness have increased significantly" (p. 389) and Hartman et al. (1992) provide a summary of the empirical articles they examined to indicate similar worker accounts of higher productivity. Alston's 1997 study indicates that supervisors attribute the increase with "an improved morale among teleworkers" (p.9). According to Bailey and Kurland (2002), only one study identifies a decrease in productivity, yet "the initial drop was followed later by an increase" (p. 389). However there is a concern among researchers that since teleworking is largely done on a volunteer basis, there is bias in the self-reported data that provides an element of suspicion among researchers (Alston, 1997; Bailey & Kurland, 2002).

Social factors related to productivity, positive impacts. Jobs and careers are changing as a result of teleworking to include task redesign and enhanced autonomy resulting in the development of new communication and coordination protocols as discussed by Raghuram et al. (2003). Teleworkers play a proactive role in making career related decisions through autonomy that allows them to shape and identify responsibilities and thereby redefine job roles (Raghuram et al., 2003). Bailey and Kurland (2002) identify that greater task autonomy is a motivator for employees to seek teleworking opportunities. Baruch (2000) points out that teleworkers with a high need for autonomy appreciate the ability to work on their own. Bailey and Kurland (2002) cite research on professionals whose autonomy is already high actually expand their job enrichment opportunities through teleworking. The study by Doherty et al. (2000) identifies that by having autonomy and therefore control, teleworkers "also assume more responsibility for accomplishing objectives" (p. 79).

There is an element of psychological job control, described by Kossek et al. (2006), that allows teleworkers the perception of personal freedom to control how and when one's job is done. "Teleworking is a unique type of flexibility that brings the workplace into the home without reducing the amount of work to be done" (Kossek et al., 2006, p. 353). The flexibility and freedom to schedule work hours to an individual teleworkers most optimal and most creative and productive times are acknowledged as an advantage by researchers, which for some teleworkers may not correspond to regular working hours (Neufeld & Y. F., 2004; Pinsonneault & Boisvert, 2001). The Pinsonneault and Boisvert (2001) study references a survey of teleworkers who claim the increase in flexibility is the main cause of increased productivity and job satisfaction. Moreover, the freedom to schedule both work and leisure activities permits a greater work-life balance (Doherty et al., 2003).

In addition to freedom in hours, teleworkers also have the unique flexibility of location that provides greater opportunity to balance home and family responsibilities, for example if a spouse must relocate or travel, allowing the teleworker to accompany them to the destination (Alston, 1997). This concept follows flexible work schedule principles that positively impact the work-life balance and productivity (Alston, 1997, p. 12). However, Bailey and Kurland (2002) identify a lack of support for claims of higher satisfaction among teleworkers in their study, although they do recognize there are "various forms of job satisfaction related to the teleworking arrangement" (p. 389). Both the Alston (1997) and Kossek et al. (2006) studies identify that stress reduction related to balancing family responsibilities is a reason for improved productivity and job satisfaction, although Kossek et al. clearly state that more research is needed to better study the constructs of boundary management (Alston, 1997; Kossek et al., 2006).

Lower absenteeism is found to be a productivity advantage based on the study by Pinsonneault and Boisvert (2001) that cited multiple researchers to include Duxbury and Higgins, 1995; Fitzer, 1997; Greengard, 1995; Gordon and Kelly, 1986; Huws, 1993; Kraut, 1987; Mahfood, 1992, Nilles, 1994; Wilkes, Frolick and Urwiler, 1994 (p. 5). According to the study by Baruch (2000), teleworkers who primarily work from a home office, are rarely absent for illness, since they can more often continue their engagement with the work whether or not they can physically go into an office (Baruch, 2000). Alston (1997) indicates that teleworkers have "generally better health with less absenteeism" (p. 13).

Social factors related to productivity, negative impacts. Teleworking may also generate harmful social impacts (Pinsonneault & Boisvert, 2001). Isolation and exclusion from peers is one of the most prevalent among teleworkers (Baruch, 2000; Kurland & Egan, 1999; Pinsonneault & Boisvert, 2001). There are two relevant types of isolation factors in this category, professional and personal (Kurland & Egan, 1999). Those workers with a high need for affiliation may feel teleworking is a deprivation based on less interaction with colleagues on a social level as well as on critical work matters (Baruch, 2000). The added stress along with feelings of "less of a sense of belonging" can lead to less effectiveness (Alston, 1997, p. 13). From the personal viewpoint, teleworker comments indicate they "miss the informal interaction they garner by being in the presence of colleagues and friends" (Kurland & Egan, 1999, p. 502). Interpersonal processes and outcomes remain overlooked in the majority of studies according to Bailey and Kurland (2002).

Kurland and Egan (1999) identify concerns of professional isolation related to the potential loss of opportunity for the teleworker to contribute to the benefits of organized membership. Kurland and Egan stress the importance that teleworkers have a voice in the

processes that affect them and find that 'teleworkers seek to ensure they receive outcomes they believe they deserve" (p. 501), but at the same time note that by not being in the traditional (physical) office setting their absence may hinder their opportunities to participate. The Raghuram et al. (2003) assessment also states that when workers are onsite, managers may monitor work progress by stopping in or asking hallway questions to facilitate work; however this can also be a cause for distraction that does not impact the teleworker. Teleworkers have less interaction with peers and fewer occasions for onsite networking, which can also lead to the potential for peer jealousy or suspicion by their onsite peers (Baruch, 2000). There may be "frustration of those left behind in the traditional office setting to adjust to shifting tasks" (Bailey & Kurland, p. 392). Resentments, real or alleged, that regular teleworkers are "perceived as an elite group" (p. 15) from those who are working in the traditional office setting are reported by Alston (1997). These social isolations can lead to a loss of morale throughout the team (Pinsonneault & Boisvert, 2001, p. 20). Bailey and Kurland (2002) state the possibility that teleworkers may "become invisible at the workplace" and "be forgotten in the distribution of more formally constructed information" (p. 390), and therefore receive poor evaluations that lead to dissatisfaction.

Kossek et al. (2006) identify the need for a personal strategy to manage work-life boundaries. Teleworkers often find it difficult to adhere to clear start and end times that affect other life responsibilities, and that can lead to "workaholism" (Alston, 1997, p. 14). As a contrast to positive productivity impacts, teleworkers may experience a lack of boundaries between work and leisure activities, or the boundaries could diminish altogether causing stress and greater impacts in the balance of family or personal time (Baruch, 2000). Baruch (2000) suggests that in-

home teleworkers may suffer from boundary ambiguity and outlines the need for teleworkers to identify clear boundaries on what is included in work and what is excluded from home activities.

Technology factors related to productivity. The study for the Communications Studies Department, University of Texas at Austin, by Scott and Timmerman (1999) points out that, "today's teleworkers are using much more technology and are much more untethered from the office" (p. 241). The most prevalent types of communication technologies to increase productivity are e-mail, voicemail, video conferencing, the Internet (to include instant messaging or IM) and on-line conferencing (Barrett & Turtz, 1998; Deetman, 2004). The Barrett and Turtz (1998) study relates a shift in the previously hierarchical structure to a more spherical one to show that informal networks are now becoming the formal method for communication and they identify that the "increasing technization of work implies an emphasis on horizontal structure and collaborative, lateral flows of communication" (p. 277). Barley (1997) describes the concept of technization as a change to how the workforce approaches working, just as the influence of microelectronics has changed the way work is done. An example provided by Barley (1997) depicts that office automation enables firms to reduce the number of clerical personnel, and increase the volume of data they process per unit, due to new technologies and changes to the way the work is done. "Microelectronic technologies have furthered the shift to an increasingly technical labor force" (p. 9) and led to a requirement for new workforce expertise, such as more skilled technicians, programmers, and computer repair work (Barley, 1997). Technology changes are seen as a more effective and efficient substitute or replacement for a previous technology, and in some cases, "technization describes the growth of new occupations" (p. 38) or in other cases the transformation of existing occupations (Barley, 1997). Teleworkers use advancements in technology for these purposes to include horizontal, vertical and diagonal (across departments)

communication and collaboration (Barrett & Turtz, 1998). Barrett and Turtz declare in their study that "groups using computer-mediated, electronic communication generated more unique and high-quality ideas than groups using verbal communication" (p. 279) with no significant differences in satisfaction.

Electronic systems allow for increased communications that allow managers and employees, particularly teleworkers, to span the boundaries and become more cross functional (Barrett & Turtz, 1998). E-mail can provide a means for teleworkers with little, if any, face-to-face contact and the opportunity for diversity of communication (Barrett & Turtz, 1998). For example, e-mail allows awareness of others' work and a better understanding of new parts of the organization, as well as the occasion to socialize (Barrett & Turtz, 1998). More recently, IM offers similar, but shorter and more frequent opportunities for co-workers and managers to connect with teleworkers (Deetman, 2004). In contrast to earlier means of communication, like telephone and e-mail, with IM it is not only possible to exchange information but IM gives more context to communication with its near-synchronous nature, because it is possible to check the availability and awareness of contacts, along with information exchange (Deetman, 2004).

Online conferencing provides teleworkers an alternative to real-time and face-to-face contact with the ability to share knowledge and information as fast and often times easier than being onsite (Worldatwork, 2009). Using electronic systems and a collaborative approach, such as real-time exchanges of information, can give group members an opportunity to include teleworkers, an equal chance for information sharing, and thereby lead to increased productivity (Barrett & Turtz, 1998). The Kirkman, Rosen, Gibson, Tesluk and McPherson (2002) study outlines comments by survey respondents pointing out that teleconferencing and the use of

online conferencing is valuable and greatly increases the two-way communication between virtual teams.

With the advances in current technology, teleworkers are able to work from "just about anywhere, including an airport, a hotel, a café, a park, and their home" (Hoang et al., 2008, p. 77-78). Additionally, as Hoang et al. state, teleworkers are often not tied to the typical nine-to-five workday so can work just about any time using wired or wireless technology. Hoang et al. represent that today's DSL and cable technology are dramatically faster than ever before to allow teleworkers the ability to obtain information faster than traveling to an office; this concept has "become more common and more important to the organization" (Hoang et al., 2008, p. 78). The freedom from time constraints is discussed above, in addition to considerations of the constraints of travel time that are saved by teleworkers contribute to productivity (Staples, 2001). Aside from the sustainability benefits and savings of travel costs, teleworkers have the potential advantage for higher productivity in using the hours spent previously on travel to and from a traditional office that can be spent on productive work (Hill, 2003; Staples, 2001).
See Table 3 for a log of influencing social and technology factors for results-oriented job performance.

Requirement #2: Effectiveness

Effectivness is described as delivering a successful outcome and meeting objectives as fully as possible (NI Direct, n.d., Effectiveness). It is a multi-dimensional concept that applies both to workers and to organizations. Effectiveness is frequently measured in terms of worker, management, and customer satisfaction; of productivity changes; and by cost benefit effects (Shin et al., 2000). Baruch identifies four factors for effectiveness: (a) the correct nature of the work and applicable fit of technology for the specific work-role, (b) a supportive organization

and trust of management, (c) the personal attitude, values, qualities and needs of the individual teleworker, and (d) a productive work space, or physical environment (Baruch, 2000, p. 36). The first three factors identified by Baruch are discussed below in both the social and technology aspects of telework. The last factor related to a productive work space includes the effects of cost and savings, although related, is not directly addressed in this study. Baruch argues that these four factors must be present for a teleworker's success. The research for this study supports that view to provide the social and technology factors related to applications of each of these four factors, to achieve effectiveness for teleworkers.

Social factors related to effectiveness. Pinsonneault and Boisvert (2001) conclude that there is evidence based on previous research to show a marked increase in employee loyalty and job retention through the benefit of teleworking that leads to a greater satisfaction (p. 20). Moreover, these studies as reported by Pinsonneault and Boisvert, found that organizations are able to retain employees who want the added flexibility that teleworking brings and who might otherwise relocate if other social impacts (such as family) required a change in physical location. Kossek et al. (2006) attribute that a teleworker's increase in job loyalty and lower intention for job turnover are due to reciprocity effect of more favorable work attitudes and behaviors for the support provided by employers. Research by the Kossek et al. (2006) study shows that "increasingly, employees value flexibility and are willing to stay with employers who provide flexibility formally and in practice" (p. 351).

Doherty, Andrey, and Johnson (2000) cite studies to include Rathbone, 1992, that contribute improvements in morale to higher retention rates and that 30 supervisors from 11 organizations in Massachusetts identified this as "the single best benefit" (p. 80) of teleworking for their organization. Along these lines, Pinsonneault and Boisvert (2001) provide additional

data to show that organizational effectiveness is realized through the benefit of teleworking when employers do not have to replace an employee, to the tune of approximately "one-third of an employee's salary" (p. 80). The study by Nilles, 1998, is also cited by Pinsonneault and Boisvert where he discusses that 23% of over 300 teleworkers would seriously consider quitting if not for the added benefit of teleworking positions. This same study by Nilles also provides similar statistics of savings for organizations of at least 25% of an employee's salary not to have to replace the worker (Pinsonneault & Boisvert, 2001).

The Pinsonneault and Boisvert (2001) study also ties an increase in teleworker effectiveness that may be due to a more focused effort on the quality of the work to achieve results, rather than the number of hours spent in a traditional office. Additionally, the time teleworkers spend onsite with peers and managers are used most effectively by improving the quality and efficiency of face-to-face time with coworkers and management (Nilles, 1996). Alston (1997) connects teleworkers with improved job commitment and that teleworkers make extra efforts to improve communication with their manager to ensure contact is most effective. Data reported within the study by Kurland and Egan (1999) of teleworking and non-teleworking employees, reports that "active telecommuters seem more satisfied with their supervisors than those who telecommute less or not at all" (p. 507). Additionally, the data within this study shows that teleworkers communicate with their employers about a wider range of topics than non-teleworkers (Kurland & Egan, 1999). In the example provided by Kurland and Egan, active teleworkers spend more time communicating about personal and non-work related topics along with no difference in work related topics. Furthermore, the interaction between teleworkers and supervisors includes an increased use of informal communication channels that enhance trust and relationship building (Kurland & Egan, 1999).

Possible drawbacks of social factors of effectiveness. Bailey and Kurland (2002) identify the challenge of reduced office input in their study. They point out that getting quick updates of informal information sharing is hampered in cases where learning takes place over lunch or by the water-cooler (Bailey & Kurland, 2002). Some managers have noted a lack of energy in the office when employees are not present on site (Bailey & Kurland, 2002). Teleworkers may feel isolated from their peers, "may fall outside the organization's socialization process, and no longer [be] enmeshed into the company's culture" (Kurland & Egan, 1999, p. 510). Kurland and Egan (1999) hypothesize in their study that telecommuters have less opportunity to interact real-time with colleagues and supervisors that also means fewer chances to ask questions and brainstorm or learn by doing through onsite interactions; however their results suggested otherwise, and they postulate that more research is needed on this topic.

Kurland and Bailey (1999) express the concern of manager input from surveys conducted that telecommuters miss out on informal and spontaneous learning, categorized as "in place career development" (p. 59). Kurland and Bailey also identify the loss of company culture and the reduced ability to transfer corporate values to teleworking employees. The main concerns expressed are principally about career opportunities and advancements due to a reduction of visibility by managers and coworkers. Job performance assessments directly affect an employee's promotion opportunities (McCloskey & Igbaria, 2003). McCloskey and Igbaria (2003) state that many employees "will not telecommute, despite the many benefits" mainly due to the "fears of adverse affects on their career advancement prospects" (p. 20). Employees and managers clearly present the fear that limited visibility will "restrict career advancement opportunities" (McCloskey & Igbaria, 2003, p. 20). Alston's (2001) study finds that these concerns were not fully supported when results-oriented job performance assessments are used

(p. 16). Moreover, McCloskey and Igbaria, also state that this speculation remains one of the least understood aspects of the teleworking arrangement and that studies such as Olson, 1989 and Pratt, 1984, suggest there is no impact to career advancement prospects (McCloskey & Igbaria, 2003). They also project that the rapid growth of teleworking calls for the need for more empirical research on whether and why differences in career advancement opportunities for teleworkers and non-teleworkers may exist (McCloskey & Igbaria, 2003).

Baruch (2000) postulates that "questionable job security" (p. 38) is a concern in his list of possible shortcomings for teleworkers as it relates to teleworkers development opportunities. Potter (2003) identifies the changing and diverse workforce needs in a growing global economy that require competitiveness and the need for teleworkers to maintain their knowledge and learning to include the rapid transformation of technology and workforce development. Additionally, Hill (2003) discusses teleworkers apprehension of receiving less pay and less job security than their counterparts working onsite. Pyoria (2003) presents examples of an executive office that provides additional fringe benefits, such as social activities and extra bonuses for onsite workers, that creates reluctance for employees to choose telework.

Pyoria (2003) also provides data by interviewees that shows employees who have an aversion to telework, stating that they prefer to "maintain a clear boundary line between work and non-work duties" (p. 175). Interviewees in the Pyoria (2003) study convey that telework is not possible with the presence of small children at home. Alston (1997) expresses the notion confirmed by multiple researchers including Bailyn, 1989; Kraut, 1989; Devine et al. 1997, who all state that child care is extremely difficult to combine with telework, and that telework is not a substitute for childcare arrangements (Kurland & Bailey, 1999; Pyoria, 2003). Furthermore, home related stress is identified as a drawback by Alston (1997) along with small children in the

home and other home related distractions that create "difficulties in separating work and home life" (Alston, 1997, p. 12).

Technology factors related to effectiveness. The study by Barrett and Turtz (1998) conclude that "uses of electronic media play a major role in determining the effectiveness of functional areas" (p. 295) within organizational teams and among those who are not constrained by boundaries, such as teleworkers. The main 'tool' teleworkers use is technology (Baruch, 2000). Shin (2003) relays the concept that the way technology is used is more important than what technology is used. For example, Shin (2003) states that commonly available communication tools used for spontaneous communications have the biggest impact throughout an organization. Additionally, Baruch (2000) identifies IT as the dominant force for teleworkers in bringing transformation and a new way of organizing work by transferring 'bits' instead of physical material for "increased flexibility, responsiveness, and effectiveness" (p. 34). Alston, (1997) presents that teleworkers use technology to enable more effective techniques to facilitate interacting at a distance with supervisors and coworkers (Alston, 1997, p. 94).

Virtual teams, as defined by Kurland and Bailey (1999), "consist of team members who are geographically disbursed and who come together by telecommunication technology" (p. 56). Virtual teams benefit from their diverse membership of cross cultural, cross organizational nature, with wider access to more talent pools by which to draw information and knowledge (Kurland & Bailey, 1999, p. 64). Teleworkers are pre-dispositioned in virtual teams and fit to perform in teams that cross boundaries; they must be armed with the required training and equipment, using electronic systems to give all "group members and equal chance" (Kurland & Bailey, 1999, p. 63). For example, video conferencing allows workers between separate locations to transmit images, audio and text between two locations to provide opportunities for greater

number of participants with less cost to the employer that lead to greater efficiency (Kurland & Bailey, 1999). Kurland and Bailey provide the caution that there may be a need for certain job roles to overlap hours with teleworkers and on site workers as well as those working in other geographical time zones, for synchronous communication (Kurland & Bailey, 1999).

Shin (2003) conveys the idea that the effectiveness of virtual teams (to include teleworking positions) is affected by the quality of technical support and its relationship among both task and communication variables. Kurland and Bailey (1999) concur with Shin (2003) that teleworkers may need to be more "technically savvy" (Kurland & Bailey, 1999, p. 61) than their onsite office peers, since technical services or resources may not be readily available when technical issues arise. Ozcelik (2010) maintains that when management is unable to provide adequate IT support mechanisms and there is a breakdown, "teleworkers could experience a total work stoppage and become completely unproductive" (p. 219). Issues could arise between teleworkers and co-workers who may not have sympathy for the teleworkers lack of resources and may not be willing to easily forgive when a task is late or an assignment is incomplete due to a technical problem (Ozcelik, 2010).

Kirkman et al. (2002), present the concept that both technical proficiency and interpersonal skills are essential for virtual and teleworking arrangements. Moreover, as Kirkman et al. (2002) state, "all employees must be well versed in using the communications technology necessary to coordinate the efforts of a cross-functional virtual team" (p. 74). Scott and Timmerman (1999) call attention to the notion that appropriate infrastructure and technical support is essential for teleworkers, particularly certain types of telecommunications technology that coordinates to the job or task as well as the type of collaboration required between teleworker and peers or managers. Shin (2003) discusses the relationship among factors to

include (a) task characteristics, (b) the quality of communication, and (c) technology support. Shin argues that the degree of fit among the factors is what will lead to effective teleworking, represented in Figure 1.

Figure 1. Task, Technology and Communication Factors to Determine Effectiveness

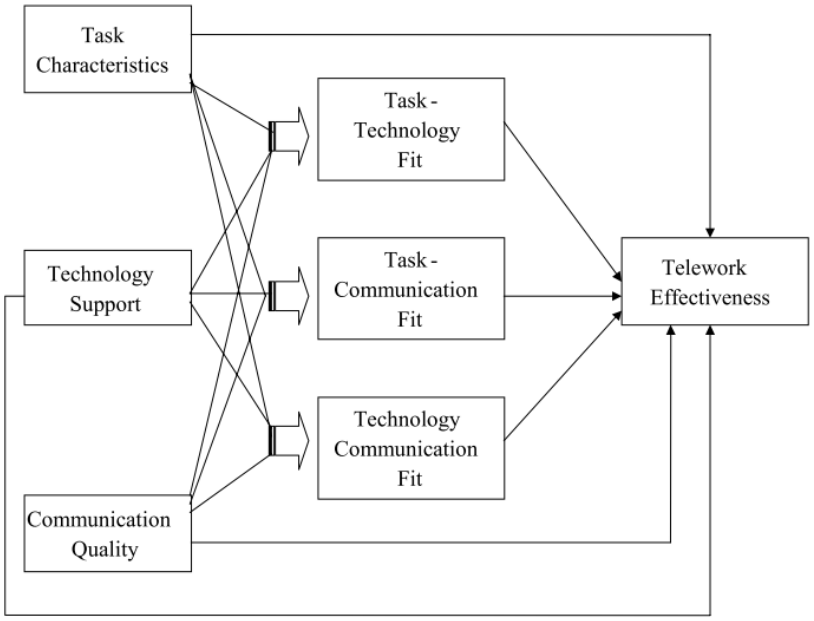

Figure 1. The degree of "fit" may prove important to achieve the effectiveness of telework. Figure 1 reflects the two- and three-way relationships among the involved variables. Adapted from "Telework effectiveness: Task, technology and communication fit perspective," by B. Shin, p. 7. Copyright 2003 by San Diego State University.

Security. The study by Pinsonneault and Boisvert (2001) points out the security concerns managers have of teleworkers transmitting corporate data via telecommunication networks. Pinsonneault and Boisvert (2001) identify that more telework is done through the Internet and that company data could be intercepted and possibly manipulated by unauthorized means. However, they follow this identification by indicating there is likely a misunderstanding in the

various control mechanisms available today, due to managers who do not fully understand the security software options available (Pinsonneault & Boisvert, 2001). Teleworkers have an added responsibility for keeping corporate information safe and secure, suggesting the essential and mandatory use of a Virtual Private Networks (VPN) as a way to ensure company data is protected (Bouchard, 2008). Issues in the security of information for teleworkers range from maintaining the corporate culture to safe handling of corporate assets (Potter, 2003). Pinsonneault and Boisvert (2001) identify the need for ensuring the proper data security measures are in place as a success factor for teleworking.

Doherty et al. (2000) suggest that some jobs tend to be more suitable for telecommuting within the high technology industry, and include those that consist "of creating, manipulating and disseminating information" (p. 74). Doherty et al. illustrate that, ideally, information based jobs that are planned, do not require face-to-face contact, and use portable technology or resources, as well as those most predictable in nature are best for telecommuters. McCloskey and Igbaria (2003) recognize that not all employees are successful at teleworking. Similarly, Raghuram et al. (2003) identify that teleworking is not the type of work environment for every MNC job or every employee, but rather has many benefits for those with a high sense of self-efficacy and those with a proactive nature and desire for autonomy. Additionally, as noted by Raghuram et al. (2003), highly skilled knowledge workers with the necessary information technology tools who proactively adapt to their job responsibilities and "attain successful individual work outcomes, will flourish and yield a variety of benefits to their employers" (p. 181). Measurable output and work results are key elements to determining productivity and effectiveness (Doherty et al., 2000). See Table 3 for a summary of social and technology factors as they relate to productivity and effectiveness requirements.

Table 3

Factors Related to Two Key Requirements for Results-Oriented Job Performance: Productivity and Effectiveness

	Social Factors	**Technology Factors**
Productivity Requirement	• Increase in productivity (see specific statistics below) • Satisfies the need for autonomy • Less work related stress • Less absenteeism • Less opportunity for affiliation • More detachment from social interactions (professional and personal) • Potential for peer jealousy or resentment	• Improved communications with technology advancements that create new ways of doing work (technization) • Opportunity for faster communication than being in office, using tools such as Instant Messaging (IM) and online conferencing • Less travel time, more time for work • Real-time collaboration tools allow simultaneous interaction with peers
Effectiveness Requirement	• Improved opportunities for the best use of time onsite and face-to-face with coworkers and management • Increased employee loyalty and job retention • More home related stress • Questions of job security • Less influence over people and events at workplace • Fewer career development options	• VPN allows secure content transfers • Opportunities for greater selection of potential workers, with use of advanced technology • Diminished access to tech support; however online support is becoming more common • Video conferencing provides opportunities for greater number of participants with less cost

Clear Teleworking Policies for Results-Oriented Job Performance

Flexible benefits and job satisfaction. A survey conducted among 1400 CFOs by one of the world's largest financial recruitment service companies, Robert Half International, reports that "over 33% of participants stated that offering teleworking as an option to potential employees is the top second factor after salary to attract top talent" (Ozcelik, 2010, p. 216). Similarly, "Telework America reports that 39% of regular employees are interested in telework and 13% consider the opportunity to telework as an important factor in accepting another job" (Ozcelik, 2010, p. 216). A survey among teleworkers at AT&T showed that the ability to telework is a major factor in their decisions for competitive job offers, and a third of them would

consider quitting if they did not have the option to telework (Ozcelik, 2010). MNCs that span physical boundaries and those that are technologically advanced, are more likely to provide teleworking as a type of flexible benefit and institute successful teleworking programs (Ozcelik, 2010).

Kossek et al. (2006) describe the impacts of teleworking that have a clear tie to job satisfaction, higher motivation, job loyalty, and lower intention for job turnover in relation to the concept of formal flexible working policies (Kossek et al., 2006). The Kossek et al. study of teleworking professionals, shows that "formal use of the telework policy is significantly related to higher performance" (p. 362) and provides the element of psychological job control over where and when one works. Formal permission to use flexibility policies makes a difference in the teleworker's attitudes according to the Kossek et al. study; adding that use of formal telework policies shows greater likelihood that teleworkers will "engage in voluntary organizational citizenship behaviors, which are types of extra-role performance" (Kossek et al., 2006, p. 351). Kossek et al. (2006) define the formal flexibility policy based on research by Eaton, 2003 as "written, officially approved human resource [HR] policies that provide flexibility based on the approval of the HR department and supervisor discretion" (p. 349). The research by Kossek et al. (2006) indicates the strong correlation by practicing teleworkers and having a flexible job. One outcome of the Kossek et al. study shows that formal use of telework policies results in "significantly higher job performance" (p. 362).

Establish mutually beneficial programs. The Kurland and Egan (1999) study specifically states, "when rules are standardized and formalized and applied consistently, perceptions of bias diminish" (p. 503). Additionally, they propose that when rules are established and goals are "clearly specified and embedded in the organization itself" (p. 503), control

mechanisms to monitor teleworkers can be put in place to provide standardized and formalized assessments of employee behaviors that reduce perceived prejudice and enable more objective rules to govern relationships (Kurland & Egan, 1999). For example, Kurland and Egan (1999) find that for more effective supervision, monitoring teleworker's job performance needs to be "based on results, the quality and timeliness of completed work, rather than observation" (p. 501). Telecommuters can report results (outputs) through written documentation (e-mail), and frequent communication in the form of phone, instant messaging, or periodic face-to-face meetings (Kurland & Egan, 1999). These types of controls allow managers to rely less on physical observations and more on results-oriented objectives (Kurland & Egan, 1999). Kurland and Egan assert that when physical observations decline, clearly defined roles and responsibilities and job performance standards ensure teleworkers perform to expected results. Additionally, the Kurland and Egan (1999) study shows that the greater the physical distance between managers and teleworkers, the less likely managers rely on spontaneous communication to relay information. Instead, their research shows a direct tie back to the three main features or strategies supervisors can use to validate remote workers behavior of setting clear goals, collaborative decision making and monitoring results (Kurland & Egan, 1999).

Multinational corporate organizations have a wide variety of telecommuting policies (McCloskey & Igbaria, 2003). The research by McCloskey and Igbaria (2003) uses both surveys and questionnaires from a sample population to compare the attitudes and opinions of both teleworking employees and managers along with their equivalent onsite non-teleworker. The sample of respondents is a set of professionals working in a highly competitive multinational technology organization with an established teleworking policy. McCloskey and Igbaria (2003) directly address fears that telecommuters have related to their perceived job performance and

evaluations. This research provides positive evidence to show that it is "possible to structure teleworking programs without the fear of a negative outcome" (McCloskey & Igbaria, 2003, p. 31). Additionally, within these circumstances of having clear teleworking policies, employees can participate in the mutually beneficial programs without the fear of negative affects to their careers (McCloskey & Igbaria, 2003).

Conclusions

The study provides a set of factors that pertain to the essential requirements that employees and managers working in large MNCs must consider for teleworkers, in relation to job performance assessments. More specifically, the social and technology factors of teleworking that influence the two main requirements, productivity and effectiveness, have benefits and drawbacks to results-oriented job performance. Acknowledging and addressing these factors is key to the success for both teleworking employees and employers.

The ability to effectively manage the growing number of teleworking relationships and social interactions, depends on the understanding of changes in these relationships and the corresponding impacts to job satisfaction (Golden, 2006). IT and the Internet play an important role in the future of productive and effective teleworking for MNCs, since these corporations rely on hardware and software to work at their peak (Ozcelik, 2010, p. 225). Organizations that support teleworking and recognize the main factors affecting teleworker's job performance have the highest opportunity for successful and results-oriented teleworking programs (Baruch, 2000; Bouchard, 2008).

Overcoming fears through control mechanisms. The most common fear of managers who manage teleworkers is loss of control. The most common fear for employees in the decision to telework is a decreased opportunity for job advancements (Bailey & Kurland, 2002; Kurland & Egan, 1999; McCloskey & Igbaria, 2003). However, researchers such as Alston (1997) and Barrett and Turtz (1998) agree that these fears can be overcome by incorporating a management culture to include results-oriented job performance and management processes based on goals and objectives rather than by day-to-day observation. This includes incorporating a system in

which teleworkers collaborate with managers on goal setting, decision making and results measurements (Deadrick & Gardner, 1999; Wholey, 2003).

The traditional modes of control, such as onsite supervision, "are no longer necessary for effective management" (p. 34) of employees and the latest developments in technology make remote work feasible (Baruch, 2000). As declared by Kurland and Egan (1999), when physical observations decline, clearly defined roles and responsibilities and job performance standards ensure teleworkers perform to expected results. Technology advancements create more effective and efficient substitutes or replacements for a previous technology, and technization has led to the growth of new occupations as well as the transformation of the way existing work is done (Barley, 1997). The advances in technization bring people all over the globe closer together and real-time communication is encouraged through technology.

Further, Baruch (2000) believes that teleworking will flourish in a culture where there is trust and employees are "measured by results rather than by attendance" (p. 45). In this respect, setting clear goals to enable measurable results provides the basis for teleworkers to be judged on productivity, such as quality and timeliness, not by observation (Ozcelik, 2010). Kurland and Egan (1999) agree that when corporations standardize rules and apply them consistently, there will be less bias among teleworkers, managers and their non-teleworking peers. Embedding clear policies into a corporate culture to increase governance, enables formalized job performance structures that are maintained objectively and use consistent control mechanisms for employee behaviors to reduce prejudice (Kurland & Egan, 1999). Kurland and Egan's research shows a direct tie to the three main features supervisors can use to validate remote workers behavior of setting clear goals, collaborative decision making and monitoring results (Kurland & Egan, 1999). The research by McCloskey and Igbaria (2003) provide evidence that implementing clear

and structured teleworking policies provides teleworkers a reference point for consistent application, without the fear of negative outcome, leading to results-oriented job performance.

Maximizing job performance. The magnitude of the gains derived from a teleworking program depends on "the extent to which teleworkers are empowered to succeed" (Bouchard, 2008, p. 4). The below list aligns with researchers cited in this study to include, but not limited to, Alston, 1997; Baruch, 2000, Bouchard, 2008, Kurland and Egan, 1999; Neufeld et al., 2005; Ozcelik, 2010, Pinsonneault and Boisvert, 2001, in relation to social and technology factors for maximum productivity and effectiveness, corresponding to results-oriented job performance:

- A clearly written teleworking policy or agreement that clearly spells out management's expectations and user responsibilities (Bouchard, 2008).
- Use of a results-oriented management system, to set clear goals, co-operative decision making, and performance measures (Ozcelik, 2010).
- An appropriate set of tools to include technology hardware and security, and collaboration software (Bouchard, 2008).
- Appropriate job assignments and roles for the right employees; aligning the job tasks in a suitable fit arrangement (Ozcelik, 2010; Pinsonneault & Boisvert, 2001).

Organizations that have well publicized and formal teleworking policies, supported by executive management, are credited with as having an advantage in job recruiting and retention of employees (Alston, 1997, p. 12). Ultimately, as Pinsonneault and Boisvert (2001), state "an organization's decision to implement a telecommuting program must be complemented by effective management practices" (pp. 179-180), and the manager and the employee must determine if telecommuting is a good "fit" (e.g. if it is suitable in all aspects) for a particular job

and employee (Pinsonneault & Boisvert, 2001). Looking to the future, teleworking can be used by many multinational organizations as a means for improving performance through collaborative communications to create business continuity and more than merely a potential added employee benefit (Ozcelik, 2010).

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