

**The Social Psychological Experience and Organizational Effects of
an Emerging Employee Population:**

An Analysis of Teleworkers in America from the 1990's Onward

By

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Abstract

This thesis analyzes the disparity between the number of jobs that are telework-compatible, or jobs that could be completed by employees primarily working from home via electronic devices, and the lack of more widespread telework adoption in the United States since the 1990's. Primary sources referenced include legislation, reports to Congress, census data, interviews, quotes from employees who work from home, a blog post with a poll of teleworkers, and Weber's ideology. Secondary sources include books and a broad spectrum of academic journals that are evaluated on quality of research and claims. Results of this thesis indicate that telework adoption is not inhibited by technological capabilities, nor from a lack of demand from employees themselves. Moreover, teleworkers have a relatively positive social psychological work experience that enables greater work-life balance. The largest inhibitor of telework adoption is managerial resistance, though organizational theories suggest telework will be adopted to a greater extent. The interdisciplinary approach combining sociological, psychological, and organizational perspectives explains the significance of the current and future state of telework for employees, middle and top managers, voters, and legislators alike. This thesis also gives recommendations for future actions to be taken to implement telework to the desired extent.

I. Introduction

Definition and Scope

Originally coined by Jack Nilles in 1973 as a solution to traffic congestion, telework is defined as “any form of substitution of information technologies (such as telecommunications and computers) for work-related travel” (Nilles, xix). Nilles goes on to explain how teleworkers telecommute through the act of “moving the work to the workers instead of moving the workers to work,” (Nilles, xix). Legally, telework was defined by the Bureau of National Affairs in 1992 as “doing one's job away from the office via telecommunications equipment,” (Joice, 5). Implicit in this definition is the assumption that the employee is employed by a separate entity and is thus not self-employed. Although many self-employed workers also work from home, this essay addresses the experience of non-self-employed teleworkers who telecommute as in “either

periodically or regularly perform work for one's employer from home or another remote location," (WorldatWork, 4). Most research referring to telecommuter statistics addresses "non-self-employed people who *principally* work from home," (Lister and Harnish, 4) and thus home-based teleworkers are the primary focus of this paper.

Telework first became prevalent in the 1990's as remote work became enabled by more technological advancement and widespread use of portable electronic devices. In 1991, the information sector made strides as this was "the first year that companies spent more on computing and communications-- the 'capital goods of the new era'—than on industrial, mining, farming, and construction machines" (Stewart, 70). In 1992, the internet, formerly utilized primarily for research and by universities, became more widely accessible to the American public (Lin and Atkin, 127). Furthermore, the internet has garnered praise as more just than a source of information, but also as a "platform for communication that crosses interpersonal, organizational, and mass communication boundaries" (Lin and Atkin, 127). This technological transition is summed up by how the new millennium is referred to as the Information Age, enabled by a communication revolution driven primarily by the large growth in broadband technology since 2000 (Lin and Atkin, 80). One of the largest, most recent catalysts for telework is the Telework Enhancement Act of 2010. This legislation effectively required each executive agency to generate policies authorizing eligible federal employees to telework, and provided a framework to implement more federal teleworkers (U.S. Office of Personnel Management). The scope of this paper is thus on teleworkers as an emerging, rapidly increasing, and documented segment of the American workforce since the 1990's.

Lenses and Overview

This paper seeks to explore the social, psychological, and organizational implications of the emergence of telework, and its effects on individuals and organizations. Sociologically, it is important to discuss the current social structure of work, social policy surrounding telework, and the relationship between telework, the employee, and society. Psychologically, this paper speaks to how telework conduces a new psychological experience for employees, and its positive and negative ramifications. Finally, this paper moves through different levels of analysis of organizational behavior theories. On the micro-level this paper addresses the individual experiences of teleworkers in organizations. From the meso-level of organizational analysis, this paper discusses the effects of technology on work groups and interactions in organizations, as well as leadership trust and decision making. From a macro-level perspective, this paper will reveal how organizations are behaving in response to the emergence of telework.

The second half of this introduction will describe the thesis question to be answered. This question is rooted in the curious concentration of teleworkers in the federal government. Thus, I will begin by addressing this concentration, then by discussing the wide range of occupations that are telework-compatible. This will segue into the three avenues of investigation of this paper.

Teleworker Sectors and Occupations

To better assess the current state of telework it is first important to understand the predominant sectors in which they work and the job positions they hold. The data referenced in this section was collected by Telework Research Network using a comprehensive methodology combining public and private sector data. The public sector data include statistics from the U.S.

Census Bureau, the Bureau of Labor Statistics, and the annual Status of Telework in the Federal Government Report to Congress in order to identify how people travel to work, where people work, and when people work. Additionally, they compiled the Census Public Use Microdata Samples to accurately represent the population of the U.S. between 2005 and 2009 while excluding metropolitan areas that were redefined during this time period. These data also encompass private sector polls. Information presented by Global Workplace Analytics supports the trends of these sources with more recent data from the 2014 Annual Community Survey. Lastly, much data on telework is collected by the U.S. Office of Personnel Management in order to compose the yearly Status of Telework in the Federal Government Report to Congress. These sources use the term “work-at-home employees” synonymously with “teleworkers” in accordance with my accepted definition of teleworkers used throughout this paper.

The largest segment of teleworkers, approximately 76 percent in 2009, are private for-profit employees (Lister and Harnish, 10). The employer populations most likely to offer regular and full-time telework are non-profit organizations, while publicly held companies are second most likely (Lister and Harnish, 17). More interestingly, although federal government employees comprise only 5.2 percent of the total teleworker population, they hold the highest percentage of work-at-home employees within their own worker population (Lister and Harnish, 10). Other reports corroborate the data stating that the federal government has the highest proportion of teleworkers in relation to their total population of employees (Analytics, 1). This high concentration of teleworkers in the federal government is largely due to policies surrounding federal telework employment. At the turn of the century it was mandated that,

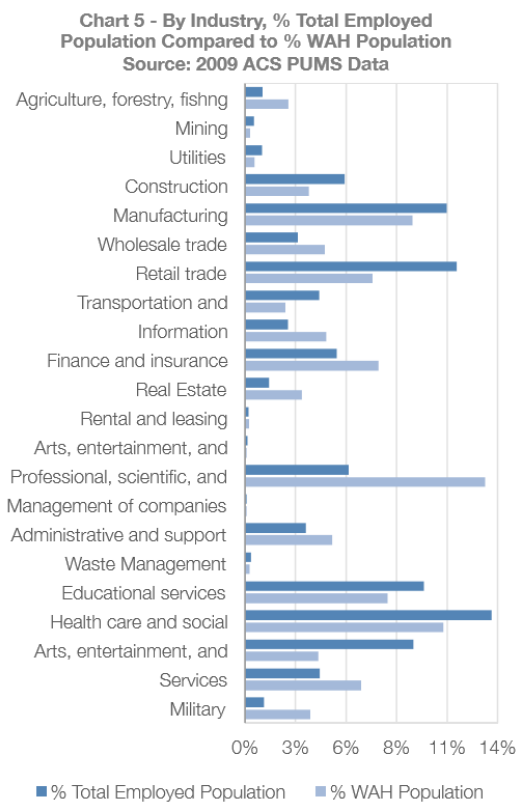
“Each executive agency shall establish a policy under which eligible employees of the agency may participate in telecommuting to the maximum extent possible without diminished employee performance,” (Transportation and Related Agencies Appropriations Act of 2001).

This act also included requirements to increase teleworker presence in the federal workforce by approximately 25 percent each year thereafter (U.S. Office of Personnel Management). More recently, the passing of the Telework Enhancement Act of 2010 provided even more rules and regulations for implementation of federal teleworkers. The purpose of the Telework Enhancement Act as stated on the first page is, “to ensure that Federal agencies more effectively integrate telework into their management plans and agency cultures,” (2010). The official website of the U.S. Office of Personnel Management mentions reasons for the Telework Enhancement Act of 2010, including transportation concerns and increased disaster preparedness. However, rationale for increased implementation of federal telework programs has now expanded to improving employee morale, enhancing work-life balance for employees, improving the competitive position of the Federal Government for recruiting and retaining the “best and brightest” workforce, increasing Federal capacity to achieve mission and operational goals, and maximizing organizational productivity (U.S. Office of Personnel Management). The Federal government also monitors the success and challenges of telework programs with the annual Status of Telework in the Federal Government Report to Congress since 2002 (U.S. Office of Personnel Management).

Teleworkers maintain a diverse array of occupations comparable to the spectrum of occupations within the total employed population. The largest segment of work-at-home employees hold management, professional, sales, and office jobs (Lister and Harnish, 13). These positions comprise 70 percent of work-at-home positions compared to 61 percent of the total

workforce (Lister and Harnish, 13). Surprisingly, teleworkers are not solely restricted to these types of positions. The American Community Survey tabulated the industry presence of the total percent of the employed population in America compared to the percent of work-at-home, or “WAH”, population. The flexibility with which telework can be implemented across industries is evident by the 2009 results graphically represented in figure 1.

1.



Source: Lister and Harnish, 14.

Thesis Question

Though many industries are telework-compatible, it is evident that telework is not being adopted as widely as possible. In fact, it is estimated that 40 percent of jobs could be performed remotely at least part of the time, yet less than 2 percent of employees “consider home their primary place of work,” (Lister, 2). The example of the disproportionately high concentration of

teleworkers in federal positions that require allowance of employees to telework the “maximum extent possible” (Transportation and Related Agencies Appropriations Act of 2001) begs the question of whether private-sector organizations could adopt telework to a similar extent if required. The data also dispels the illusion that some industries are not suited for telework. This is seen by the work-at-home prevalence in an array of unexpected industries such as agriculture and manufacturing. Furthermore, the policy for maximum utilization of telework within the federal government specifies that the telework must also be implemented “without diminished employee performance,” (Transportation and Related Agencies Appropriations Act of 2001). Thus it is safe to assume that if other organizations model their telework with equivalent proportional representation to telework employment in the federal government, no diminished performance would be incurred.

This thesis seeks to address the inconsistency between telework-compatible jobs and telework adoption through an examination of three possible inhibitory factors. The first factor is technology itself, in regard to both communication and implementation. The second factor is the perceived social psychological trade-offs on the part of employees themselves. The third and final factor is external resistance to telework from organizational players with historical notions of work. The conclusion will statistically outline the implications for American society if recommendations for increased telework presented in this paper were adopted, and also identify how specific readers will be better informed to make decisions regarding telework in the future.

II. Is Technology Advanced Enough?

This section evaluates whether contemporary technological capabilities inhibit the potential of telework in organizations. Despite differing information communication technology used to support telework, a typical technological infrastructure is comprised of four categories: “devices, databases, telecommunication networks, and software,” (Tung and Turban, 108). First, I will argue that a combination of different technological capabilities can facilitating communication among teleworkers with effectiveness equal to in-office interactions. Then, I will evaluate the degree to which organizations face barriers to adopting and implementing said technology. This portion naturally only addresses jobs that are telework-compatible and excludes jobs that do not concern communication, such as jobs solely comprised of manual labor.

Equally Effective Communication through Technology

Computer-mediated communication, or CMC, is highly topical in today’s society. With that in mind, this section gauges the validity of claims that CMC is less effective than face-to-face communication. First, I will discuss how text over CMC is processed psychologically. Next, I will examine how other forms of technology supplement CMC to allow for equally effective communication between people who are physically separated.

Philosopher, psychologist, historian, English professor, and previous president of the Modern Language Association of America, Walter Ong (Saxon), is considered the ultimate specialist on the topic of the influences of communication and literacy on human consciousness. Primary orality, he explains, is communication in a culture “totally untouched by any knowledge of writing or print,” (Ong, 11). Secondary orality, on the other hand, is produced in “present-day high technology culture” whereby communication is moderated by “electronic devices that

depend for their existence and functioning on writing and print” including but not limited to telephone, radio, and television (Ong, 133). Although Ong’s text was written in 1982, he extended the notion of secondary orality to computerized communication in an interview in 1996. Ong stated that “although [computer messaging] is not exactly the same as oral communication, the network message from one person to another or others is very rapid and can in effect be in the present,” (Klein and Gale, 80). Ong gave the example of how writing a memo to oneself, even if only a few minutes prior, does not retain the immediacy of oral communication (Klein and Gale, 80). On a computer network, however, Ong notes that there is “no such interval” whereby written communication via modern technology can be received in real-time (Klein and Gale, 80). Ong states, “textualized verbal exchange registers psychologically as having the temporal immediacy of oral exchange” (Klein and Gale, 80). Applied to work chatrooms such as Slack, typed words are processed as though someone is “saying them to us in front of us,” (Meyer, 1). Another important element of written communication is its ability to contain metacommunicative cues (Walther, 79). Metacommunication is the element of communication other than what is literally said that helps to inform how the information should be interpreted (Medical Dictionary). Metacommunicative cues are essentially stimuli that contain meaning in addition to what is said. Textual cues that have metacommunicative value exist in the form of icons, exclamations, capital letters, spelling, and lexical surrogates such as “hmmm” (Walther, 79). In addition to supplementing computer-mediated conversations with metacommunicative value, these textual cues via electronic communication have even become conventionally accepted (Walther, 79). Thus, Ong and Walther maintain that direct messaging may be psychologically equivocal to having a verbal conversation.

Even if people register text as spoken word, it is well established that nonverbal cues convey a significant portion of meaning in conversations. In a review of differences between computer-mediated and face-to-face communication, Walther identifies many weaknesses in data that claim the nonverbal cues conveyed in face-to-face communication enable superior interactions than computer-mediated conversations. Walther asserts that the only qualitative difference between CMC and face-to-face communication is that computer-mediated interactions may require a longer period of time to exchange interpersonal impressions among people who are previously unacquainted (69). However, given enough time and message exchanges, “CMC and face-to-face communication will be the same,” (Walther, 69). A strong justification for this claim is the substitutability of non-verbal cues with verbal expressions. One study on teleconferencing found that people replaced nonverbal behavior, such as indicating agreement with a head-nod, with verbal phrases such as “I quite agree” (Walther, 76). For these reasons Walther maintains that the medium for communication is less essential for developing relationships than the amount of prior interactions themselves (Walther, 71). Furthermore, visual cues can still be exchanged via physically distant individuals with the use of videoconferencing applications (Lin and Atkin, 86). Free videoconferencing applications such as Google Hangouts have high video image resolution and can accommodate both one-on-one video calls and large group discussions.

Here it is important to acknowledge theories that underscore the medium of communication as an essential aspect of communication or that face-to-face interaction cannot be recreated via technological communication tools. One largely cited theory is that of Social Presence coined by Short, Williams, and Christie. The social psychologists explain Social Presence as a subjective quality of a medium of communication (Short, Williams, Christie, 66).

They state that, “media having a high degree of Social Presence are judged as being warm, personal, sensitive and sociable,” (Short, Williams, Christie, 66). Users’ rated different communications media on these qualities to determine differing degrees of Social Presence. Image 2, taken from their book, shows the differing degrees of Social Presence felt between technological communication and face-to-face interactions.

2.

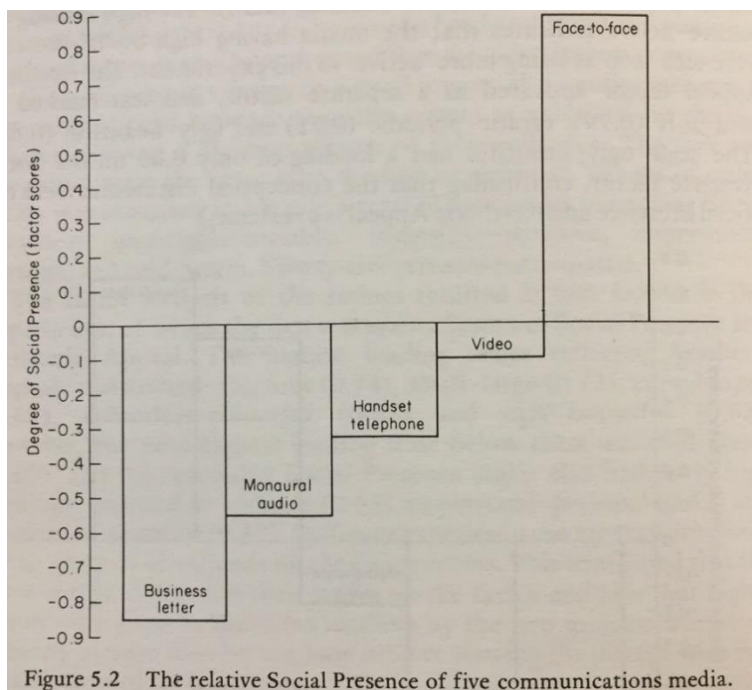


Figure 5.2 The relative Social Presence of five communications media.

Source: Short, Williams, Christie, 70.

These data support their hypotheses that technological communication, even the more personalized mediums such as video calling, has a different social psychological effect on users than face-to-face interaction. At the same time, however, the authors concede that the “medium of communication does not affect evaluative ratings of the conversation and conversation partner,” (Short, Williams, Christie, 139). Perhaps even more significant, the authors also state that the accuracy of perception of a conversation, such as perception of lying or other’s personality, also remains unaffected regardless of the medium of communication (Short,

Williams, Christie, 139). Thus, despite how people may have different affective experiences when communicating via different mediums, the cognition of the information and perceptions of others appear to remain unaffected.

Another critique of telework is that it inhibits group work. This, too, can be overcome by new applications that enable group work among people who are not physically concentrated. This form of technology has been coined “groupware” or “computer supported cooperative work” that facilitates group level interaction (Robertson, Maynard, McDevitt, 32). These programs, among other things, enable teams to organize tasks, create deadlines, send messages, and view project completion; all assets that even in-office employees utilize while working collaboratively. The number of people who have purchased Asana, a recently developed and highly popular groupware product, was estimated to be more than 286,000 in August of 2015 (Lerouge). This figure does not even include users of the free version of Asana, myself included, which is estimated to be 7,156,000 people (Lerouge). Clearly quality groupware is a valuable resource with growing popularity in contemporary organizations.

Barriers to Technological Implementation and Adoption

Although technological communication does not appear to affect the content that is being conveyed, other organizational barriers associated with technology may inhibit more widespread adoption of telework in organizations. One barrier to adoption of technology is the initial cost of both software and hardware. However, because many telework-facilitating technologies, such as computers, are continually declining in cost, the price barrier experienced in the past may soon be eliminated (Lin and Atkin, 92). Depending on the user-difficulty of the software and hardware, a more costly element of implementing telework may include investment in the

transition to new work methods such as training employees how to use the technology and teleworker supervision methods thereafter (Harpaz, 74).

Another limiting element could be that organizations do not recognize the importance of technological adoption. One theory regarding psychological barriers to technological adoption is that companies have an “absorptive capacity” or a limited capability to “recognize the value of new, external information, assimilate it, and apply it to commercial ends” (Cohen and Levinthal, 128). Factors affecting the absorptive capacity of organizations may be their prior related knowledge and investment in research and development (Cohen and Levinthal, 128). Thus some firms that adopt technological change too slowly or lack investment in expertise may limit their ability to implement telework programs successfully. The authors who coined the term also note the importance of the individual’s absorptive capacities for an organization’s successful adoption and diffusion of new technologies (Cohen and Levinthal, 131). This echoes the previously mentioned barrier of training employees to be literate in the technology once it is available.

In sum, if organizations are able to overcome technological barriers to entry that accompany telework, subsequent computer-mediated communication appears equally effective such that lack of face-to-face communication should not inhibit cognitive processing of information. Barriers to adoption, such as cost, are also projected to dissipate over time, allowing more organizations the opportunity to implement successful telework programs. If companies are able to overcome these barriers, they could expect to enjoy new absorptive capacities, facilitating further technological advancement in the future.

III. Teleworkers Themselves

A second explanation for limited adoption of telework may be that employees themselves prefer not to telework. This section gives a social psychological assessment of the teleworking experience, explains the trade-offs and concerns of telework, and notes the simultaneous increase in demand for telework positions regardless of increased opportunity for telework jobs.

The Social Psychological Experience of Teleworkers

Based on a disparate selection of research and literature, I have distilled the social psychological effects of telework on employees down to the three most relevant categories: work-life balance, productivity, and job satisfaction. These three components will be addressed in comparison to the in-office working experience and how they interact with one another to create an overall more enjoyable work experience for many people via the virtual office.

Psychologists and sociologists alike agree that maintaining work-life balance, or the notion of facilitating the relationship between work and other commitments such as family and community, is extremely important for an individual's psychological well-being (Rantanen et al., 28). Many psychologists also concur that a successful balance between work and family roles are indicated by "high self-esteem, satisfaction, and overall sense of harmony in life," (Rantanen et al., 28). Some scholars use the term work-life integration to discuss this topic due to the fact that integration does not necessarily imply a "50:50 investment or allocation" of time across commitments and is thus more subject to the resource allocation preferences of an individual (Jones, Burke, Westman, 2).

There are many instances where telework enables more efficient and effective work-life integration. First, teleworkers telecommute. In 2014, about 21.4 million Americans spent 15 to

19 minutes travelling to work each day and about 20.4 million Americans spent 20 to 24 minutes commuting daily (U.S. Census Bureau). Telecommuters most commonly save between 15 and 24 minutes each day, though many, about 3.6 million Americans, commute for 90 minutes or more every day (U.S. Census Bureau). Additionally, many teleworkers even end up working “during the time they would have otherwise spent commuting,” (Lister, 6). This exemplifies the perceived increase in work-life balance felt by teleworkers whereby even if they only devote a small portion of their hypothetical commute toward a longer work day, they still retain more time for themselves than if they were to physically commute.

While time efficiency is gained by eliminating unnecessary travel, effective work-life balance is achieved through the schedule flexibility afforded by telework. Schedule flexibility allows for a large amount of work-life integration such that teleworkers are able to combine performance of work, household, and family tasks (Sullivan and Lewis, 134). One example of schedule flexibility facilitating ultimate effectiveness is the teleworkers’ ability to grocery shop during non-prime hours. Furthermore, it is suggested that a successful integration of work tasks and family tasks may lead to better management of both (Hill, Hawkins, Miller, 298). One study assessed many elements of work-life balance through a qualitative and quantitative comparison of mobile workers and in-office employees in Western America within the same large company, IBM. Eighteen months prior to the collection of these data, IBM had closed many offices and converted those employees into teleworkers as a financial strategy for reducing office costs. Thus the employees were not self-selected and presumably did not create biased data. It is not surprising that the mobile office employees of IBM confirmed that they had “personally benefited from mobility, and a majority rated mobility as having had a positive influence on their personal/home life,” (Hill, Hawkins, Miller, 297). Mobility was most highly praised for

increased capacity to care for young children and for strengthening family relationships through the ability to spend more time with loved ones at opportune times (Hill, Hawkins, Miller, 299). While telework allows for schedule flexibility, many authors stress how teleworkers “need to be self-reliant and self-motivated,” (Daniels, Lamond, Standen, 70) to ensure that work is still performed.

Although telework largely enables increased work-life integration, some teleworkers experience less work-life balance due to the fact that there is no physical distinction between the primary place of work and one’s place of residence. One study found that all but one male and one female in a group of 28 teleworkers interviewed, reported that working from home had “led to a breakdown in the psychological distinction between work and family,” (Sullivan and Lewis, 134). It is surprising to note that despite the aforementioned flexibility enjoyed by telework in theory, there are many teleworkers who instead use home-offices as an avenue to “extend work into traditionally non-work hours” (Sullivan and Lewis, 127). Additionally, mobile workers who have home offices with a door were more likely to report that they did not have “sufficient time for their family life” (Hill, Hawkins, Miller, 298). One explanation is that a dedicated work environment in one’s living environment may enable workaholic tendencies (Hill, Hawkins, Miller, 298). Thus it may be all too easy, both psychologically and physically, for teleworkers to lose work-life separation and succumb to overworking and eventual work exhaustion.

An equally important psychological phenomenon is the effect of telework on productivity. Research consistently shows that the vast majority of telework-compatible jobs result in higher productivity when they are performed remotely. Case examples of increased productivity among teleworkers are that of Best Buy that increased average productivity by 35 percent through its flexible work program while Dow Chemical estimates a similar figure, a 32.5

percent increase in productivity, among its teleworkers (Lister, 6). IBM also reported telework employees to be 50 percent more productive while Alpine Access, one of the nation's largest all-virtual employers, "attributes a 30% increase in sales and 90% reduction in customer complaints to its home-based agents" (Lister, 6).

There exist many explanations as to why teleworkers produce markedly more productive results. Small factors affecting increased productivity of remote workers is that they have fewer interruptions such as coffee breaks, long lunches, and office chatter (Lister, 6). Electronic communication is similarly less interruptive and thus more conducive to a more focused work environment (Bailey and Kurland, 385). Teleworkers are also able to utilize schedule flexibility to work hours during which they perform best (Lister, 6).

Another element enhancing productivity statistics of remote work is decreased absenteeism among teleworkers. Teleworkers show up to work, so to speak, more often. Physical explanations for increased work attendance among teleworkers are decreased exposure sick co-workers, fewer occupational and environmental hazards, less driving, and more time for exercise (Lister, 8). Psychological factors also contribute to absenteeism. Home-based workers are not only to be less likely to be sick, but are also less likely to fabricate an illness and more inclined to work despite an illness (Lister, 8). Additionally, teleworkers are able to manage personal obligations, such as "appliance deliveries" and appointments, without "losing a full day of work" (Lister, 8). A case example is that of The American Management Association that reduced absences by 63 percent through telework (Lister, 8).

Lastly, teleworker productivity is not measured by mere physical presence. In an annual report to Congress, the director of the Office of Personnel Management, John Berry, applauded the ability of telework to reduce what he called presenteeism or "the practice of sitting at one's

desk without working” (Lister and Harnish, 11). Berry highlighted the close relationship between telework and productivity when he stated, “I am an adamant supporter of telework because workers in an effective telework program can only be judged by their results” (Lister and Harnish, 11). This was echoed by the statement regarding telework that “where a person works these days is not as important as the work performed,” (Robertson, Maynard, McDevitt, 111).

Job satisfaction, a more holistic measure of happiness derived from or inhibited by one’s employment, is an equally important assessment of the overall psychological experience of teleworkers. Reports of job satisfaction between in-office employees and remote workers are somewhat divided in the present literature. Job satisfaction is often operationalized by Spector’s Job Satisfaction Survey, or JSS, which contains a Likert-type scale (agree or disagree on a scale of one to seven) to calculate a degree of agreement on nine facets of job satisfaction including “pay, promotion, supervision, benefits, contingent rewards, operating procedures, coworkers, nature of work, and communication,” (Webster-Trotman, 77). Responses to the JSS are then compared to what is referred to in the literature as “extent telework”, or the amount of time spent teleworking. Naturally extent telework is operationalized by the number of hours the individual reports working from home. One study that used the JSS for 218 salaried home-based workers across a combination of 70 private-sector and federal organizations in the U.S. found no statistical positive or negative correlation between job satisfaction and extent of telework nor between job satisfaction and teleworker demographics (Webster-Trotman, 126). In essence, results indicated that there is neither an increase nor a decrease in perceived job satisfaction with number of hours spent teleworking nor the teleworker’s age, gender, child-care responsibility, marital status, years teleworked, etc. (Webster-Trotman, 128). Moreover, personality traits,

nature of the work, and organizational culture may hold more influence over job satisfaction (Webster-Trotman, 126).

A more nuanced theory on the relationship between the extent of telework on job satisfaction claims that greater satisfaction is derived from more time spent teleworking before leveling off and eventually even regressing (Golden and Veiga, 302). Golden and Veiga describe the effect as an “inverted U” relationship where there exists an optimal ratio of time spent teleworking and working in-office such that employees enjoy the many benefits while minimizing costs, namely feelings of isolation (Golden and Veiga, 303). Their study was conducted across 321 professional-level workers who responded to an anonymous survey though it only used a three-item scale to assess job satisfaction. However, this study took into account other job aspects that moderated the relationship between job satisfaction and time spent teleworking. The first moderator was task interdependence, the degree to which employees must rely on one another to successfully complete their assignments (Golden and Veiga, 303). The results were significant in that, “those telecommuters with high task interdependence experienced a somewhat slower rise in job satisfaction [with more time spent teleworking] compared with those with low interdependence,” (Golden and Veiga, 310). This suggests that those who have more solitary jobs may be more satisfied with greater extent teleworking. Job discretion, what the authors define as autonomy over one’s work, was also assessed for its moderating effect on extent of telework and job satisfaction. Their hypothesis was that teleworkers who have less job discretion, or less control over the implementation of assigned tasks, will experience less job satisfaction with greater amounts of time spent teleworking (Golden and Veiga, 305). This was based on the rationale that seeking clarification, direction, and approval more often would be frustrating while working remotely (Golden and Veiga, 305).

Their results supported these predictions, however, increased job satisfaction for those with higher job discretion was mostly pronounced at “fairly low levels” of telecommuting (Golden and Veiga, 310). The last moderator assessed was work-scheduling latitude – schedule flexibility– which was operationalized by asking teleworkers to rate on a scale of 1 to 5 their “opportunity to exercise choice in defining the hours and patterns of hours that they work” (Golden and Veiga, 307). Although increased work-scheduling latitude is supported to have positive effects on work-life balance as mentioned earlier, the researchers did not find a statistically relevant relationship between work-latitude and overall job satisfaction with extent teleworking.

Both findings discussed here imply that amount of time working from home has neither a wholly negative nor a wholly positive effect on job satisfaction. What may be more influential in setting expectations for job satisfaction derived from telework is the role of personality and how greatly employees weigh autonomy, flexibility, and inclusion (Morganson et al., 589). Hence, workers should assess their own preferences and the nature of their jobs when pursuing telework positions. It is also suggested that future research may be needed to accurately understand the relationship between hours spent teleworking and the nebulous notion of job satisfaction (Morganson et al., 589).

In sum, telework has “recast where, when, and how employees perform work,” (Webster-Trotman, 15) and thus created tangible psychological effects and potential complications distinct from the in-office working experience. Some studies are divided on the question of whether people experience increased job satisfaction while teleworking, though increased productivity and work-life balance are widely acknowledged and praised as benefits enjoyed by teleworkers.

Those who value schedule flexibility, are self-motivated yet can resist overworking, and prefer solitary jobs with autonomy over tasks may be some of the best-suited employees for telework.

Teleworkers' Concerns

Some specific concerns are raised about telework primarily due to the shift in physical space. In October 2015, Moishe Lettvin, a current teleworker himself, wrote about the largest difficulties of working remotely. Lettvin, using social media, polled fellow teleworkers asking what they believed was the hardest part about working from home. Lettvin received responses from more than 450 self-reported teleworkers, which then aggregated into broader categorical concerns. One category of concern mentioned, the threat of telework to work-life balance, was previously addressed in relation to the potential to overwork when there is no physical, and in effect no psychological, distinction between work and home. The most common category of grievance, however, were words relating to isolation. The two most common responses were “loneliness” and “isolation”. Other responses that Lettvin categorized under the broader concern of isolation included: “socialization”, “recognition”, “interaction”, “comradery”, “forgotten”, “lonesome”, “culture”, “people”, “visibility”, “separation”, “connection”, “love”, “inclusion”, “exclusion”, and “bonding”. The personal and professional isolation created from the lack of a physical office presence is also acknowledged by scholars as one of the largest deterrents to telework (Cooper and Kurland, 512). Perhaps we know innately that personal isolation has a significant effect on human psychological well-being. These effects are exemplified by the fact that “isolated workers report anxiety, loneliness, and physiological health symptoms,” (Morganson et al., 583). Furthermore, young, single professionals often use the workplace as a key vehicle for peer contact and relationship formation (Nilles, 36). For this reason the personal

isolation felt by teleworkers may leave some personalities and life-cycle stages feeling especially lonely in telework positions (Nilles, 36).

Professional isolation is an equally relevant concern for remote workers that may negatively impact skills, networking, and promotional opportunities. Cooper and Kurland researched the importance of informal interactions that occur in the physical office. They note the importance of informal communication in spurring networking, learning, and potential mentor relationships that foster employee development (Cooper and Kurland, 513). This was summarized by their statement that, “telecommuters perceived that they did not have the same degree of access to informal development opportunities,” (Cooper and Kurland, 519). The survey utilizing Spector’s job satisfaction survey mentioned previously also underscored the professional isolation that accompanies telework. Comments from current teleworkers in the free-response section included that they receive less “equitable consideration” for promotion due to infrequent interaction with supervisors, perception of being less hardworking, and less visibility and face-time in the workplace (Webster-Trotman, 119). However, one potential mediator between professional isolation and telework may be formal communication channels. Research comparing public and private sector organizations indicates that organizations with “more formalized personnel practices and systems” may create a better environment for teleworkers as they do not rely on informal modes of communication (Cooper and Kurland, 514). Currently public-sector organizations create more equal opportunities for teleworkers due to their often hierarchical and standardized organizational structures (Cooper and Kurland, 514). Thus, those who seek to telework with minimized professional isolation may be better off in hierarchical organizations, at least until telework programs become more commonplace.

Perhaps of more importance is whether teleworkers become isolated from the community at large. Interestingly, non-union organizations are more likely to offer telecommuting jobs than those with unions (Lister and Harnish, 5). However, this does not seem to impact teleworkers' union presence. One study found that despite isolation, teleworkers "tend to report participation in both voluntary/charitable activities and in political/trade union activities more than non-teleworkers," (Kamerade and Burchell, 345). One explanation for this could be the opportunities created by electronic communication to engage in "virtual communities" of similar interests, education, tastes, beliefs, and skills (Lin and Atkin, 126). Moreover, the increased ability to manage work and life obligations afforded by telework may leave teleworkers more time for participating in trade unions and other forms of civic engagement.

Regardless of the concerns, the predominant attitude toward telework remains favorable. A behavioral manifestation of the favorable attitude toward telework can be seen by how the demand for telework is growing. In 1997, telecommuters reported that the benefits of telecommuting outweighed the costs (Reinsch, 343). A more recent study conducted in 2011, found that 30 percent of a sample of 2,800 students and young professionals in 14 countries "believe that once they begin working it will be their right – not a privilege – to work remotely with a flexible schedule" (Glazer, 638). Additionally, the study found that almost half of workers under the age of 30 "would be willing to take a pay cut to get the kind of flexibility they want," (Glazer, 638). Telework Research Network supports these statements with their own finding that, "almost 80 percent of employees say they would like to work from home, at least part of the time" and "more than a third say they'd choose the option to work from home over a pay raise," (Lister, 9). It appears as though the emerging workforce values telework and may even pressure companies to increase telework positions.

IV. Organizational Resistance

The last point of analysis I will address is organizational resistance to telework. This section deconstructs motives of organizational players that inhibit telework. Here it is also important to delve into how the history of the conceptualization of work within organizations may inhibit telework adoption. Lastly, I argue that organizational resistance will dissipate over time due to the tendency of organizations to mimic the most efficient models.

Managerial Resistance

Though many organizational barriers may inhibit telework adoption, one of the “most predictive” factors affecting which employees will telework is managers’ willingness (Bailey and Kurland, 1). One reason why managers may be unwilling to allow greater telework implementation is the additional effort required in order to make the transition. Substantive actions to employ teleworkers require that managers supervise work schedules more closely and learn more about workers’ personal habits (Lin and Atkin, 90). Other skills managers may need to acquire for telework include, “information handling skills, influencing and negotiating, teamworking and communication, and ability to cope with rapid and complex change,” (Daniels, Lamond, Standen, 161). Acquiring the necessary skills for telework programs is also known to put pressure on managers to the extent that they also experience more stress (Daniels, Lamond, Standen, 161).

Psychological barriers to telework also facilitate managerial resistance to telework. Fear and mistrust among managers has been claimed to be “the biggest barrier to telecommuting by a wide margin,” (Lister and Harnish, 5). One fear is the loss of control in the workplace (Kurland and Egan, 501). Lin and Atkin interpret this managerial concern as the fear of the loss of the

ability to “observe, police, and interact with the worker,” (90). One study found that out of 114 chief decision-makers in North Carolina firms, the majority were more likely to allow telework programs for professionals than clerical workers (Tomaskovic-Devey and Risman, 380). This, they state, supports the notion that managers fear loss of control because “direct workplace control is an already resolved issue” for professional telecommuters (Tomaskovic-Devey and Risman, 380). Allowing clerical workers to telecommute, on the other hand, does pose a new control paradigm. Managerial fear of loss of control was further underscored by how firms with large clerical workforces are, in fact, less likely to adopt telework (Tomaskovic-Devey and Risman, 380).

Another psychological explanation is that lower-level managers act in their own short-term self-interest when deciding whether or not to allow alternative work arrangements for subordinates (Powell and Maniero, 52). Sociologists Hannan and Freeman explain managerial resistance as backlash to the “redistribution of resources across subunits” that upsets the prevailing system (931). They note how structural reorganization may benefit the organization in the long-run, but that organizational leaders must face “personally aversive short-run costs” (Hannan and Freeman, 931). Other scholars give managers the benefit of the doubt with the suggestion that they may not foresee potential long-term organizational benefits of allowing some employees to utilize telework and other work schedules (Powell and Maniero, 52). Thus, even if employees are capable and willing, and the effects may benefit the company, telework adoption may continue to be inhibited by managers’ laziness, fear of devolution of power, or inability to foresee long-term benefits.

Schema Change and the History of Centralized Work

The managerial struggle of accepting telework segues into the broader notion of the difficulty of changing long-held schemas, or knowledge structures of stored information (Gilovich et al., 16), about what constitutes the action of performing work. Nilles discusses the conceptual difficulty of accepting telework due to how it challenges the prevailing centralized model of work (1). Centralization of workplaces throughout history was logical for efficient production (Nilles, 1). Many underscore the Industrial Revolution as the time when centralized work became predominant (Broder, 1639). The post-Industrial Revolution work setting was a distinctly different place, at a different time, with different sets of people, and with different norms for behavior and expressed emotion than family activities (Clark, 728). Although created originally for efficient manufacturing, this centralized organizational model has permeated other sectors for which it may not be best suited like business and communications (Nilles, 4). Working remotely, however, challenges common notions that workplaces necessitate centralization that were instrumental in the growth and history of America and the world at large. One scholar sums up this idea succinctly with the statement that, “home-based working reverses arrangements that have prevailed since the Industrial Revolution for work and home to develop as distinct domains with different rules, thought patterns and behaviors,” (Harris, 428). The notion of physical centralization has thus been chronically accessible, and at the forefront of our minds when thinking about work. Logical centralization, the ability to be connected with one another irrespective of physical centralization (Nilles, 4), is a relatively new capability for society. Thus transcending physical centralization may take time to accept and even longer to associate immediately with “going to work”.

Hannan and Freeman also underscore the role of history in determining, and especially constraining, organizational changes (931). They identify organizations as having structural inertia, or difficulty making structural changes, due to how “normative agreements” inhibit change (Hannan and Freeman, 931). They explain that accepted organizational models, or norms, are barriers to change because they create an “organizing principle for those elements that wish to resist reorganization” (Hanan and Freeman, 931). Essentially, organizations have to justify change against more commonly accepted systems. Normative agreements over organizational models also “preclude the serious consideration of many alternative responses,” (Hannan and Freeman). Prevailing ideas of how organizations ought to be structured inhibit structural change as organizations simply accept the current model and do not entertain other options. Applied to telework, this echoes the concept of absorptive capacities and the inability of managers to consider valuable new technologies as such. Though many of the technologies allow physical decentralization while maintaining logical centralization create a viable organizational model, the mental schema and normative agreement of work being associated with physical centralization has a well-established history that has already proven to be difficult to overcome.

Organizational Theory and the (Better) Bottom Line

Aside from managerial resistance and the psychological and sociological difficulty of changing schemas, organizational theories suggest that telework will increasingly be adopted. One perspective on organizational behavior, the population ecology perspective, applies ecological evolutionary models to the organizational context (Hannan and Freeman, 1). Similar to natural selection in the environment, the population ecology perspective states that natural selection will occur for organizations in a given population where those organizational models that are the most fit will outcompete others in the population (Hannan and Freeman, 1).

Population ecology draws from previous theorists such as Max Weber who stressed ever-increasing capitalist economic competition. Weber notes how the rationalization and coercion into the modern economic order “may well continue... until the last ton of fossil fuel has been consumed,” (Weber, 121). Population ecology similarly stresses how organizations strive for competitive efficiency via the most profit-maximizing organizational models. These models are referred to as “blueprints”, or formal structures that create the normative order of organizational patterns of activity. Organizations that maintain the most-profit maximizing blueprint are thus able to effectively select out those that do not, or cannot, adapt their structure to the more efficient model (Hannan and Freeman, 935).

While the population ecology perspective emphasizes demands of the market, the institutionalist perspective adds further insight into what determines organizational success. Although acknowledging needs of efficiency, the institutionalist perspective emphasizes how organizations succeed by mimicking the structures of other successful organizations in a given field (DiMaggio and Powell, 147). The process of using other organizations as models of success that leads to “homogeneity in organizational structures and practices”, the sociologists explain, is called institutional isomorphism (DiMaggio and Powell, 148). Literally meaning same shape, isomorphism is “the process of homogenization” where adaptation is a guiding force (DiMaggio and Powell, 149). The process by which organizations copy one another is referred to as mimetic processes. Mimetic processes are driven by two needs: certainty and legitimacy (DiMaggio and Powell 246). Simply stated, organizations copy models that have already been proven successful, in order to avoid the uncertainty of newer models, and to simultaneously gain legitimacy of tried and true structures. The need for legitimacy is similar to the notion of normative agreements

mentioned earlier, whereby organizations must adhere to norms when deciding whether to reorganize.

Drawing from these theories, it seems clear that telework will be adopted to a greater extent in the future and possibly even become the prevailing organizational model in fields with telework-compatible jobs. From the population ecology perspective, telework programs will be adopted because they decrease costs and increase productivity ensuring companies enjoy a higher net profit, or better bottom line. The most significant effect of telework on net profit is the removal of real estate, electricity, and central office expenses. In general, it is estimated that companies can save 18 percent in real estate costs by utilizing half-time teleworkers (Lister, 7). Industry research shows that telework has saved The U.S. Patent & Trademark Office \$11 million while IBM reports saving \$700 million a year in these expenses (Lister, 8). Teleworkers also contribute less toward company expenses due to decreased rates of absenteeism and turnover. Unscheduled absences are reported to cost employers \$1,800 per employee per year, another cost that teleworkers mitigate substantially (Lister, 9). Turnover and productivity among teleworkers are similarly improved (Lister, 9). Thus, if enough organizations were to improve their bottom line to the degree afforded by telework, those that fail to implement telework may be outcompeted and selected out of the given field. Efficiency, as noted in the institutionalist perspective, must also be accompanied by legitimacy and certainty that the efficient model is successful. Although telework currently challenges long-held notions of centralized work, as it becomes normalized in more organizational structures, greater acceptance and association of legitimacy will follow.

In an increasingly competitive global market, industries that can accommodate more teleworkers in the future will quickly minimize costs and increase worker productivity to an

extent that is projected to outcompete those who do not utilize telework. Increased implementation will incur greater legitimacy for organizational models with telework that other organizations will mimic. Currently, however, managerial resistance remains pervasive as one of the largest inhibitors to telework adoption. Schemas and difficulty recognizing and accepting new technologies similarly affect adoption by shaping normative agreements and limiting legitimacy.

V. **Conclusion: Telework and the Future**

To conclude I first discuss the implications of greater extent telework on the future of the United States of America in a global context. Then, I evaluate methods to enact organizational change that enable telework adoption. Finally, I address why this level of analysis is original and significant, the concerned audience for this thesis, and ways in which those readers can make more informed decisions.

Implications

While originally seen as a solution to traffic congestion (Nilles, 1), telework as a sociological shift has implications on a global scale. I have categorized these extensive effects into three sections: environmental, structural, and social ramifications of telework. The statistics calculated by Telework Research Network reference the hypothetical situation if telework were adopted to the maximum desired extent possible. They found this figure by multiplying 40 percent of American workers in 2010, “the amount of workers who could work from home at least part of the time” by 79 percent, the percent of that population that would choose to telework “if given the opportunity” (Lister, 5). Environmentally, if telework were adopted to the maximum desired extent possible, green-house gas emission would be reduced by 28 million

tons from office construction and 312 million tons from energy saved annually (Lister, 16). In addition, approximately 289 million barrels of oil, or 36.6 percent of oil imports to America from the Persian Gulf, would be saved annually (Lister, 16). This leads me to the structural implications of increased adoption of telework. With less need for oil, America would be positioned to decrease dependence on foreign entities and, in turn, decrease economic and political vulnerability (Lister and Harnish, 23). Also highlighted in the 2013 annual Status of Telework in the Federal Government Report to Congress, telework enables improved “emergency responsiveness” (1). Telework has literal structural effects such as making transportation infrastructure last longer and saving taxpayer dollars in the process (Lister and Harnish, 23). Socially, telework provides more job opportunities for people with disabilities (DiMartino and Wirth, 532). Telework can also assist rural development and spur economic activity (DiMartino and Wirth, 532). Additionally, since more than 25 percent of vehicle accidents occur during the commute to and from work, less commuters and more telecommuters would naturally mean fewer vehicle-related injuries and casualties (Lister, 16). While these are the primary effects mentioned across the literature, telework may have other unintended or unrealized implications as well.

Suggestions for Telework Implementation

Unfortunately, these widespread benefits are largely unrealized. The most comprehensive analysis of telework in the U.S. calculated in 2009 found that although 50 million U.S. employees with telework-compatible jobs wanted to work from home, only 2.9 million employees considered home their primary place of work (Lister and Harnish, 4). While the number of American teleworkers has increased since 2009, I refer to this comparative statistic because many reports are not as inclusive of all populations that identify as teleworkers nor do

they calculate figures of people who could, and want to work from home. One of the main employer populations responsible for the discrepancy of greatly desired telework and lack of opportunity for telework is the private for-profit sector (Lister and Harnish, 11). Although private for-profit companies employ the largest percent of the work at home population, this figure is significantly smaller than the total population of private for-profit employees. Additionally, private for-profit companies had the slowest growth in number of work at home employees over the 5-year period between 2004 and 2009 (Lister and Harnish, 11).

In alignment with many cost/benefit analyses of telework in the United States, I too suggest that policies requiring telework implementation in organizations be refined and applied to employer sectors other than the federal government. The institutionalist perspective identifies mechanisms of pressure used to achieve organizational change. First, the most formal and effective form of pressure is coercive pressure, usually manifesting as political influence (DiMaggio and Powell, 150). In order for telework to be adopted long-term, organizational structures must undergo significant changes such as becoming “flatter, more complex, more interconnected and more dynamic,” (Daniels, Lamond, Standen, 158). To channel McGregor’s statement on the issue, “established theories of control are not abandoned easily, even in the face of clear evidence of their inappropriateness” (Webster-Trotman, 23). Applied to managers and supported across studies, devolving power is one of the biggest obstacles to telework. One source even states that while the two largest obstacles to telework are the type of job and management, the type of job itself is shockingly less of an obstacle to telework than resistance from upper and middle management (Lister and Harnish, 18). Thus, if the percentage of those desiring telework is ever going to be fully realized, coercive pressure may be necessary. Moreover, if coercive pressure were exerted even to a small extent, other forms of isomorphic pressure may follow,

mainly mimetic processes. This is because organizational models with extent telework would become more widely accessible for others to imitate along with gaining legitimacy afforded by coercive pressure (DiMaggio and Powell, 150).

What's more, coercive pressure could be enacted without any harm if also applied to private for-profit, private not-for-profit, and state and local government employer populations. Similar to the provision stated in the Transportation and Related Agencies Appropriations Act of 2001 and as was restated in the Telework Enhancement Act of 2010, I propose that telecommuting be enacted to the maximum extent possible but only "without diminished employee performance." Using the federal government as a model of success and even as a trial example, other organizations have much to gain with little to forfeit. Although organizations may eventually adopt telework on their own for the many competitive advantages, policies that require and perhaps even monitor telework adoption will no doubt expedite this process along with the attainment of profound environmental, social, and structural benefits for America and the world.

To Whom It May Concern

The interdisciplinary approach of this paper to discuss such a multi-dimensional topic is unlike other pieces written on telework that solely analyze the social, psychological, managerial, or environmental considerations. Moreover, little has been published on the application of organizational analysis to telework adoption. This may be because many of these texts instead offer managerial transition guides, of which there is a wealth of information. Many scholarly articles also have data-driven analyses of singular dimensions of the teleworking experience, such as work-life balance, though few give a comprehensive overview of the different considerations and trade-offs. Thus the original analysis of the current state of telework in

America provided by this paper may be of interest to a diverse audience. One target audience is employees considering telework. Potential teleworkers should know what to expect if they choose to work from home the majority of the time along with personality characteristics that are important to evaluate. This thesis also calls attention to middle and top management organizational players and the role their decisions play in either stymieing or expediting telework implementation as well as the challenges they may face in the process. Middle managers may now be aware of illogical tendencies to reject the new form of work and new skills demanded of them by telework programs. Top managers can glean a social, psychological, and organizational understanding of the importance of technological adoption and may be persuaded to implement telework as a strategy to increase net profit. Lastly, this thesis applies to policy makers and voters. The wide-ranging improvements that can be made to the lives of the American work force, productivity and structure of our country, and the global climate via telework deserves national consideration.

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