Telework as Part of a Business Continuity Strategy: A Path toward Organizational Resilience

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Abstract

This paper explores the impact an established telework program included in a Business Continuity Plan (BCP) has on the resiliency of an organization during and after an unexpected event. Two important realities are beginning to force old management traditions to evolve and transform. First, distance-spanning technologies challenge “same time, same place” models of work. Second, and most important, business interruptions and work stoppages are crucial to an organization’s productivity. A changing world demands new ways of using our digital infrastructure to survive in business. Natural disasters, terrorist attacks, and unexpected business crises have the capacity to change the way businesses and societies function.

This study utilizes literature from to the areas of telework, business continuity, and resilience, along with real-world business cases relating to the three areas of focus. The literature chosen provides insight into the impact a telework strategy integrated into an organization’s BCP has on an organization’s ability to maintain business functions during and after an unexpected event. The paper defines telework and discusses the benefits and issues related to a telework program, and defines the concept of business continuity, making the argument that an established telework program is a critical component of a BCP in continuing business operations during a crisis: keeping an organization’s reputation and assets intact. The review of literature and supporting real-world business cases resulted in four findings: (1) management resistance in telework adoption exists, (2) a BCP ensures essential functions during an unexpected event and it is crucial for organizations to be prepared for all types of disasters, (3) telework as part of a BCP is a proactive management approach to disaster planning, and (4) resilient organizations are prepared to continue operations during and after an unexpected event.
The study also presents a conceptual model that shows that when needed, executing telework within a BCP will decrease downtime and minimize the impact of a business interruption during a crisis, which leads to less lost revenue, less disruption of operations and improved responsiveness to customers.
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Chapter One: Introduction

Statement of the Problem

The objective of this paper is to evaluate the role of telework as a critical component of a Business Continuity Plan (BCP). Two realities are beginning to force old management traditions to evolve and transform. First, distance-spanning technologies challenge “same time, same place” models of work. Second, and most important, business interruptions and work stoppages are crucial to an organization’s productivity. A changing world demands new ways of using our digital infrastructure to survive in business. Societies have evolved from simple to complex. Complex societies evolved with advancements in technology and communication, which have had a profound impact on organizations. Daniel Bell (1973) attributes this transformation to the growth in technology and communication, which in turn has changed the way organizations operate.

Natural disasters, terrorist attacks, and unexpected business crises have the capacity to change the way businesses and societies function, making it necessary for planning and preparation within the organization before a crisis occurs.

Thesis

On October 17, 1989, the Loma Prieta Earthquake struck Northern California, causing the collapse of a two-level, 1.25-mile-long section of the Cypress Viaduct on Interstate 880 in Oakland. A section of the Bay Bridge connecting San Francisco and Oakland also collapsed. The earthquake forced closure of eleven major transportation structures (bridges, overpasses, and the raised freeways).
On September 11, 2001, 50,000 people were already at their desks in the twin towers of the World Trade Center when commercial jetliners hijacked by terrorists slammed into the buildings and tore out the heart of the financial center of New York City. Another hijacked airliner, American Airlines Flight 77, crashed into the Pentagon in Washington, D.C. The nerve centre of the US military burst into flames and a section of the five-sided structure collapsed.

On April 29, 2009, The World Health Organization (WHO) raised the pandemic alert level for swine flu (influenza A H1N1) to Phase 5, meaning that the virus has caused sustained outbreaks in at least two countries in one region (in this case, Mexico and the United States). Less than a month later (May 14, 2009), there were 6,497 cases of swine flu officially reported in 33 countries – including 3,352 laboratory confirmed cases in the United States (Goldman, 2009). On April 10, 2010, the Centers for Disease Control and Prevention (CDC) estimated between 43 and 89 million Americans have contracted pandemic H1NI, between 195,000 and 403,000 have been hospitalized, and between 8,870 and 18,300 have died (CDC, 2010).

Natural disasters, terrorist attacks, and unexpected business crises have the capacity to change the way businesses and societies function. Like the human biological nervous system that triggers our reflexes to react quickly to danger or need, companies that want to survive and thrive before, during, and after a crisis, need to maximize the use of information technology (IT) and human capital to respond quickly, smoothly, and efficiently. Hurley-Hanson (2006) and Burke (2005) make the argument that the primary goal of any organization is to get up and running as quickly as possible after a disaster has occurred: keeping its reputation and assets intact.

There is evidence that the use of telework as part of a Business Continuity Plan has been successful for organizations that have undergone a major disaster. For example, during
California’s major earthquakes in 1990 and 1993, many companies established remote work centers and telework arrangements because damage to roads and railway systems made commuting difficult for many employees. In the aftermath of the Los Angeles earthquake, the City of Los Angeles and Pacific Bell set up a special agency to assist companies on using telework to avoid transportation chaos. In Florida, some employees who lost their homes as a result of Hurricane Andrew in 1993 became teleworkers at the homes of friends and relatives who took them in. That same year, employees of the World Trade Center worked from home and remote offices after the building was bombed and closed for repairs. A Texas newspaper allowed writers to telework after it burned to the ground in 1992. In addition, it borrowed presses from another paper and coordinated writers and reporters by telephone; its prior experience with telework helped the work flow smoothly during the crisis (DiMartino & Wirth, 1990).

Di Martino and Wirth’s (1990) study of the 1990 Loma Prieta earthquake in San Francisco showed that companies which had telework programs in place before the disaster struck were significantly less affected by the commuter crisis than those who attempted telework “on the fly,” when their staffs could not come to work as they normally would. This earthquake forced closure of eleven transportation structures, including the high traffic bridge that connects the East Bay and San Francisco.

**Research Questions and Propositions**

It is imperative to businesses that employ knowledge workers, where work duties, inside and outside the organization, can take place anytime and anywhere, to understand:
• How, if at all, an organization with an existing telework program is more likely to minimize the negative impact of a business interruption than an organization without an existing telework program.

• How, if at all, a telework program as part of a Business Continuity Plan (BCP) decreases downtime in the event of a business interruption.

The literature review, business case studies, and conceptual model presented in the paper are applied to argue the following propositions:

1. An organization with a telework program as part of its business process before a disaster is more likely to make quick decisions in regards to its Business Continuity Plan.

2. An efficient and well-coordinated use of teleworkers enables a company to react to its customers’ needs, organize timely responses, and minimize lengthy interruptions for their customers.

**Definition of Key Terms**

*Telework.* An organization’s strategic plan that allows a worker to work from a remote location, including but not limited to, a home office, satellite office, telework center, or on the road such as airport, hotel/motel, or restaurant, where communication is primarily performed through communications (telecommunications, fax, mail, etc.), with very little or no physical interaction with the main office location.

*Teleworker.* Any employee who performs his or her work functions from a remote location.
**Telecommunications.** Voice, video and internet communication services that provide the primary means of communication for a teleworker to conduct business, such as cellular phone, broadband and mobile internet, and a landline telephone.

**Remote Office Center.** Leased fully equipped offices for teleworkers from multiple companies to conduct business where access to their respective company network is via the internet using a virtual private network (VPN).

**Knowledge Worker.** A professional worker who is compensated for his/her knowledge and the application of that knowledge. These workers are considered intellectual capital to organizations, the resource that determines the value and competitiveness of the organization. They use knowledge to plan, acquire, search, analyze, organize, store, program, distribute and market and contribute to the transformation and commerce of information and those who work at using knowledge.

**Unexpected Event.** Often referred to as a disaster or crisis situation that is unintentional and unexpected which cause a business interruption or work stoppage. These include events of natural, technological and human origin, such as (partial list):

<table>
<thead>
<tr>
<th>NATURAL</th>
<th>TECHNOLOGICAL</th>
<th>HUMAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avalanches, earthquakes,</td>
<td>Traffic accidents,</td>
<td>Arson, bombings, financial collapse, food</td>
</tr>
<tr>
<td>epidemic diseases (avian flu),</td>
<td>building/structure collapse,</td>
<td>poisoning/contamination,</td>
</tr>
<tr>
<td>floods, hurricanes, tornadoes,</td>
<td>transportation strikes, fire and</td>
<td>shootings, riots/civil unrest,</td>
</tr>
<tr>
<td>wildland fires, tidal waves,</td>
<td>explosions, fuel shortages,</td>
<td>theft, vandalism, epidemic</td>
</tr>
<tr>
<td>lightening storms, snow and</td>
<td>hazardous material accidents,</td>
<td>diseases, security violations,</td>
</tr>
<tr>
<td>ice storms</td>
<td>equipment breakdowns, water</td>
<td>public transportation strikes (buses, trains, underground,</td>
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<td></td>
<td>damage to building structure</td>
<td>etc)</td>
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Business Interruption/Work Stoppage. An unexpected or unintentional event, including but not limited to the disaster/crisis list above, that destroys productivity, and where there is some or significant customer or revenue impact.

Business Continuity (BC). Ability of an organization to continue operating and providing service to customers when the organization or one/more of its critical business elements has suffered a business interruption/work stoppage.

Business Continuity Planning/Plan (BCP). A proactive planning process aimed at ensuring critical services and products are delivered during a disaster/crisis, which causes a business interruption/work stoppage.

Resilience. An organization’s ability to take proactive steps that will allow the organization to respond, rebound and adjust quickly and easily to an unexpected event; resuming operations in a “business as usual” manner and quality.

Research Methodology

The methodology applied to this study is to connect the concepts of telework, business continuity and organizational resilience. In order to define the meaning of each concept and to understand how the integration of telework and business continuity affects an organization’s ability to respond, react and recover after it is faced with adversity, emphasis was placed on scholarly and professional journal articles, books, and website sources. Articles found on company websites (i.e., AT&T and Cisco Systems) and telework associations (i.e., Telework Exchange), provided valuable information on company policies and industry statistics on telework and business continuity planning. A review of relevant business cases concludes the
literature review to provide a real-world view on the impact a telework program integrated into a business continuity plan has on an organization’s resilience in the case of an unexpected event.

Following the analysis of the literature a conceptual model was developed to form the basis for examining the importance of telework as an established business program and as a component of a business continuity plan. The model portrays the outcomes an organization can encounter when faced with adversity, in this case, an unexpected event.

Prior to the completion of Chapter 3, Findings and Analysis, a panel of industry experts was solicited to provide an objective view on the scholarly content of the study’s introduction, literature review and conceptual model. The Expert Panel consists of one academic professor from University of Maryland University College, Graduate School of Management and Technology Master of Business Administration program, and two professional practitioners in the fields of telework and business continuity. The two practitioners were found on LinkedIn, the world’s largest online professional network, after more than twenty professionals from two LinkedIn Groups, Telework Advocacy and COOP & Disaster Recovery MidAtlantic, responded to a request to review the study.

Each panelist provided relevant feedback after review of the study, which prompted revisions to the introduction with additional definitions, expanding the depth of information of commercial studies to reflect the significance of the studies to the literature review, and a realignment of the conceptual model to clarify the process and flow of the model.
Summary

Organizations that are not prepared for a major disaster may not be able to sustain business operations. According to the American Red Cross (n.d.), as many as 40 percent of small businesses do not reopen after a major disaster like a flood, tornado or earthquake. The key is to be prepared before such a disaster occurs. Incorporating best practices and proven managerial processes into an organization’s business continuity plan will provide the necessary tools to help the organization to respond, recover, and resume operations quickly and effectively after an unexpected event. The purpose of this study is to examine the connection between telework and business continuity; and provide management with information on how the combination of the two relates to the impact (and magnitude) of business interruptions to an organization during and after an unexpected event.

Organization of Dissertation

Chapter 1 presents an introduction to the study, which includes the statement of the problem, research question and propositions, along with key definitions that clarify the topic(s) in this paper. Chapter 2 provides a theoretical foundation for the study by exploring the concepts of telework, including the benefits and issues related to a telework program, business continuity, and organization resilience. Chapter 3 presents a conclusion with findings found in the research. The chapter also presents a conceptual model that makes the argument that an established telework program is a critical component of a Business Continuity Plan (BCP) in continuing business operations during a crisis: keeping an organization’s reputation and assets intact and increasing organization resilience. Chapter 4, the final chapter, provides insight into future trends relating to the study of management and suggestions for further research.
Chapter Two: Literature Review

This chapter reviews the literature on the subjects of this study: telework, including working definitions along with a review of some of the advantages, disadvantages and barriers to telework; the evolution of business continuity and the connection to telework as a business strategy, along with an attempt to understand resilience as it relates to organizations faced with adversity. The research examined is taken from academic books, journals and articles, as well as information from telework associations and government documents. The chapter concludes with real world, relevant business cases that support the research question and propositions stated in Chapter 1.

Telework

History of Telework as a Management Concept

The location of where and when work is performed has evolved from the Industrial Age, a machine-driven economy where most job functions were performed at a central location, to the Knowledge Age of today where individuals have the ability to work from different places and have different schedules. The first modern technological revolution, the Printing Revolution, made a great leap forward in the history of communication with the invention of the movable type. Literacy fostered new innovations and inventions by better-educated people.

Telework was first used in 1857 in the management of the most revolutionary invention of the Industrial Revolution: the railroad. When the railroad was laid across the nation it followed the telegraph lines. The owner of the Pennsylvania Railroad, J. Edgar Thompson, one of American history’s most innovative managers, instituted new information-based work policies
to keep track of his business, which was spread out along miles and miles of track. He created a hierarchy of divisions and put a manager in charge of each division. He used his company’s private telegraph system to obtain and send reports and directives to each manager in multiple locations (Drucker, 2002). This is the main concept of telework.

**What is Telework?**

Jack Nilles coined the term “telework” in 1973 while working on projects aimed at eliminating rush-hour traffic, as a professor at the University of Southern California. Nilles defined telework as “activity that includes all work-related substitutions of telecommunications and related information technologies for travel” (Collins, 2005, p. 115). Today, there are a variety of terms related to telework(ing). A few popular terms include telecommuting, e-commuting, e-work, working from or at home, remote employees, and home-based teleworkers. The terms relate to organizations providing a flexible working location for all or a few workers where communications with the organization and customers is performed via electronic telecommunications such as, but not limited to, email, internet, voice over internet protocol, videoconferencing and telephone conferencing. Today, with the advancements in technology, employees can perform their work anywhere, which Vivadelli (2005) terms the Network of Space – a group of diverse locations where workers can work productively. The concept includes locations such as remote offices, telework centers, hotels, restaurants, airplanes, airports, etc. that are connected to the main facility via technology networks.

The numbers of teleworkers have increased over the years. According to World at Work (2009), a human resources association, the number of teleworkers increased 43% from 2003 to 2008. While the number grew, there has been a shift from full-time teleworkers to occasional or
part-time teleworkers. In the survey among 1,002 U.S. adults 18+ years of age through random phone calls during a one month period in 2008, it was found that the home is the most common location for remote work (87%), while a client or customer site was second (41%) and the teleworker’s car (37%) as the third most common place to conduct business (World At Work, 2009).

The public sector utilizes telework as a business strategy. On Tuesday, June 3, 2008, Fox News reported that the House of Representatives approved legislation, H.R. 4106, requiring the head of each federal agency to set policies allowing qualified workers to telework, or work from home or a convenient location (Abrams, 2008). The Federal government’s decision to adopt a telework program stems from energy shortages, air quality concerns and the increase in commute time of many US metropolitan city workers due to urban sprawl. According to CDW Government, Inc., more than half of Federal government employees are eligible to telework, compared to 16% of their private-sector counterparts. Although the Federal law requires 100% eligibility, only 52% of Federal workers are eligible for the benefit, and only 44% have the option to telework (Telework Exchange, 2007a). This is a far cry from the 100% eligibility requirement.

Advantages and Disadvantages of Telework

Telework has an impact on the organization and the individual worker, both positive and negative. From the organization’s perspective, the benefits associated with teleworking revolve around productivity. Organizations who have reported an increase in productivity have attributed those gains to an increase in worker efficiency, reduced absenteeism, increase in
employee satisfaction, and a decrease in costs. Some of the disadvantages of telework reported include technology issues in regards to security, and employee isolation.

Advantages

Public and private organizations have claimed that telework increases productivity. Collin’s (2005) research study on Lloyd’s of London, a world-famous insurance organization in the UK, reported that its teleworkers are 23% more productive than office-based workers. The study was measured using Six Sigma, a business management strategy, to compare performance of teleworkers and office-based workers. Each worker was measured independently on volume of work output and quality. American Express teleworkers produce 43% more business than their office workers (Telework Coalition, 2008). AT&T conducted a self-reported research study in 2003 and found that 62% of its teleworkers reported higher productivity at home while only 6% reported higher productivity in the office (Allenby & Roitz, 2003). According to a 2006 Telework Exchange study of 214 Federal Managers from civilian agencies (87%) and Department of Defense agencies (13%), sixty-six percent of managers who manage teleworkers find that teleworkers are as productive as their in-office counterparts (Telework Exchange, 2007b). As of October 2007, there were 3,609 PTO employees participating in some form of telework at the U.S. Patent and Trademark Office (PTO). The PTO defines productivity as the amount of patents received. A pilot telework program showed an increase of 10% in productivity with no difference in quality of work (GSA, 2008).

Cisco provides eligible employees with telecommuting and telework options as part of its work/life program. Cisco estimates the program has saved the company $277 million in productivity annually. In 2008, Cisco conducted a survey among 1,992 of its telework
employees across five regions (Asia Pacific, Europe, Japan, U.S., Canada) to evaluate work quality and productivity, advantages and disadvantages of telework, and employee satisfaction. The study revealed that approximately 69% of employees cited higher productivity when working remotely, 75% said timeliness of their work improved, and 67% reported their overall quality of work improved (Marketwire, 2009).

There are good reasons to believe that telework allows people in many jobs to work more productively. According to the National Center for Health Statistics (n.d.), American workers miss 90 million workdays a year from sickness stemming from colds and the flu. Teleworkers, on the other hand, can continue to work from home even though they are not feeling well, recapturing the number of days worked and reducing the number of sick days. The CCH Unscheduled Absence Survey on U.S. absenteeism in the workplace measures the rate, cost and reasons associated with those absences. The 2007 study randomly surveyed 317 human resource executives in 48 states from organizations across major industry segments with 1+ million employees. According to the 2007 CCH Unscheduled Absence Survey, unscheduled absenteeism costs employers more than $760,000 per year in direct payroll costs, along with lost revenue when the effects of poor morale are considered (CCH Incorporated, 2007). Thirty-four percent of people call in sick due to personal illness while the other 66% is due to stress (14%), entitlement (13%), and personal and family needs/issues (40%). The results show that work-life balance is an issue with absenteeism rates. Pamela Wolf, JD, a law analyst for CCH, states “Most people today are juggling the demands of busy personal and professional lives, and are trying to do their very best in both places. Organizations need to stop the tug of war with people for their time and become a partner to employees to help them, and the business overall, be more
successful” (CCH Incorporated, 2007, p. 1). The survey also examined work-life programs and found that alternative work arrangements and telecommuting to be the two most effective work-life programs used to control unexpected time off. On the opposite spectrum, presenteeism is also an issue. Employees who come to work when they are sick pose a risk to other employees and those they come in contact with (customers). Telecommuting was also reported as an effective program used to deter presenteeism.

Telework has also been linked to increased motivation and morale, improved work-life balances, and higher levels of job satisfaction. A whitepaper on the benefits of telework written by the U.S. General Services Administration (GSA), found that government workers who telework report that reduced work-related stress is due to “decreased traffic headaches, a better work-life balance, more personal control over time and environment, and consequently, an increase in overall flexibility” (GSA, 2008, p. 7). Gajendran and Harrison (2007) constructed a theoretical framework and meta-analysis of 46 studies in natural settings involving 12,883 employees to study the positive and negative consequences of telework. Their research revealed that telework has beneficial effects on job satisfaction, performance, and stress; “high-intensity telecommuting (more than 2.5 days a week) accentuated telecommuting’s beneficial effects on work–family conflict” (p. 1524). In a 2007 survey of Connecticut teleworkers, 95% had positive feelings about working from home. The top three comments recorded were “helps me manage both home and personal activities,” “I really enjoy working at home” and “not having a commute is one of the best things about working from home” (Telework Coalition, 2008, p.1).

Another benefit accruing to businesses in adopting a telework strategy is cost. Evidence has shown that organizations have reduced costs by reducing office space. Apgar’s (2002) term
“deconcentration,” couples telework and information technology, which “allows companies to redistribute work to numerous single-and multiple purpose sites, within cities, across regions and globally, without compromising the collaboration and efficiencies of collaboration in a specific facility” (p. 50). Deconcentration is similar to Vivadelli’s Network of Space, which allows organizations to conduct business at any place and at any time. Organizations that have experienced cost savings utilizing a deconcentration strategy include AT&T who freed up $550 million in cash flow, IBM reduced total occupancy costs by $1.2 billion, and Sun Microsystems cut $387 million from its $800 million annual occupancy cost (Apgar, 2002).

Recent government laws encourage telework as a business strategy with specific tax benefits for organizations that offer telework programs. For example, the state of California extends a $500 tax credit to organizations that participate in telework, Georgia gives a $1,200 credit for each teleworker, and Virginia grants up to $35,000 in tax credits (Hunton & Norman, 2010). The reason behind the benefit is to help reduce traffic, improve work-life balance, and to encourage companies to test their Business Continuity Plans (BCP).

Telework may also reduce living costs for some Americans by facilitating the movement away from more expensive, larger and coastal metropolitan areas to smaller and internal metropolitan areas and non-metropolitan areas. A 2007 survey of Connecticut teleworkers estimated that each teleworker reduced their annual commuting cost by an average of $2,104 per year (Telework Coalition, 2008). Each Sun Microsystems employee who participates in the company Open Work Program saves $1,700 per year in reduced fuel expenses and vehicle wear and tear (Riswadkar & Riswadkar, 2009, p. 92).
Disadvantages

Technology provides a vital role in organizational control and communication, which is crucial to telework success. It is the primary means of communication between teleworkers and the “office.” Bill Gates (1999), the Chairman of Microsoft, believes that telecommunication technologies and security structures are already in use in organizations—“the typical company has already made 80 percent of the investment in IT systems: networks; e-mail; basic business applications, productivity software, spreadsheets, word processing, etc.” (p. xv). Despite an organization’s established security structures, the company still faces an increased risk of confidential data loss and risks to data integrity resulting from the increased geographical diversity of their network and the loss of direct corporate control over the teleworker's physical work environment. For instance, a major breach of privacy by the United States Department of Veterans Affairs resulted from a laptop being stolen from a worker who took his work home. The result was described as "potentially the largest loss of Social Security numbers to date” (Lemos, 2006, p. 1).

Some teleworkers have reported feelings of loneliness and alienation from the organization where they feel left out of the organization’s developments or promotion opportunities. Professional and social isolation occurs with many teleworkers due to the lack of face-to-face interaction with their peers and can lead to a feeling of a loss of self-identity as an employee. Cooper and Kurland (2002) employed grounded theory methodology to compare the impact telework has on public and private employees’ perception of professional isolation. The study was conducted utilizing 93 semi-structured interviews with teleworkers, non-teleworkers, and their supervisors in two high tech firms and two city government offices. The findings
linked professional isolation to employee development activities and to which extent these activities are valued in the workplace. According to Cooper and Kurland (2002), professional isolation occurs when teleworkers, miss important organizational rewards because they feel that they are out-of-sight because they are off-site. The authors found “that teleworkers miss three types of developmental activities that occur frequently in a conventional workplace: (1) interpersonal networking with others in the organization; (2) informal learning that enhances work-related skills and information distribution; and (3) mentoring from colleagues and superiors. In the study teleworkers perceived that they did not have the same degree of access to these informal development opportunities” (p. 519).

**Barriers to Telework**

Two research studies by Hoang, Nickerson, Beckman and Eng (2008), and Daniels, Lamond and Standen (2001) focus on two major barriers to telework adoption: *corporate culture* and *management resistance*. The concept of organizational culture plays a key role in change and has plagued the adoption of a telework strategy in organizations. Hoang et al. (2008) conducted a study using web-based surveys and interviews of 78 business professionals and managers, which asked respondents to describe their organization’s corporate culture or behavior that affect the adoption or non-adoption of telework. Research indicated that corporate culture has a direct effect on the adoption or non-adoption of a telework strategy and still remains a deterrent in telework adoption in some organizations. In Daniels et al.’s (2001) framework for understanding differentials in the growth of teleworking in different organizations, the authors conclude that an organization that exhibits personal flexibility, trust and openness with a focus on expansion and adaptation is more likely to adopt teleworking practices than an organization.
associated with bureaucratic control and stability. The two studies exhibit a culture that is open to change and has an entrepreneurial aspect within the culture that will be more “open” to adopting a new strategy like telework.

The other major barrier to telework adoption is management resistance. Yukl (2006) identifies multiple reasons why a manager would be resistant to change, including lack of trust, fear of failure, and loss of status or power. These are all natural reactions by those who want to protect themselves from failure. Huff, Huff, and Barr (2000) identify this as “fear of the unknown” in the article on individual cognition and how it relates to schema theory (stress and inertia) “a routine of knowledge and understanding at the individual level where individuals understand their environments by organizing past experience and behavior into patterns, which provide rules and guidelines for future perception and action” (pp. 42-43). Similar to organizational culture, once a schema has been developed it is difficult to change. The most significant barrier is management trust and the traditional managerial attitude of workers needing to be “seen” in order to be considered working (Kowalski & Swanson, 2005). Telework arrangements require a change in management style, which most managers are reluctant to change. Some managers fear that supervision and coordination will be more difficult and that their workloads will be increased by having to manage teleworkers appropriately (Shin, El Sawy, Liu-Sheng, & Higa, 2000).

The Hoang, Nickerson, Beckman, and Eng (2008) survey also revealed that worker visibility is still very much part of the corporate culture. The survey found that organizations are more apt to choose part-time or occasional telework than full-time telework, which is evident by some of the survey responses, such as: “In my organization, there is great acceptance of
occasional work from home,” and “Telework at my company is generally well supported and accepted as an alternative to coming to the office daily. As long as an individual can be in the office regularly for meetings and face-to-face interactions then it can work fine and is supported” (Hoang et al., 2008, p. 90). The mind-set of a manager, who is accustomed to the physical presence of employees, will have to be modified in order to adopt a telework strategy.

Martinez-Sanchez, Vela-Jimenez, & de Luis-Carnicer (2002) conducted a mail survey among Human Resource Managers in companies with more than 25 employees, to determine the perceptions on the barriers and benefits of telework. At a 21% response rate, 157 questionnaires from companies in different industries (5.7% primary, 64.3% manufacturing, 30% services) were used for the study. A Likert scale of 1 (not important) to 4 (very important) was used to rate the following on barriers to telework adoption: resistance to change job procedures (3.12), little telework procedure knowledge (3.07), IT costs (2.83), training costs (2.75), and management resistance (2.61) (p. 778). When the surveys were divided between older companies (<1980) and newer companies (1980<), the results changed. The older companies viewed each barrier more importantly than the newer companies. For example, management resistance for older companies was 3.20 and 2.88 for newer companies (Martinez et al., 2002, p. 780). The results also suggest that more companies are moving from a bureaucratic management style to a more organic, open management style, and that corporate cultures are becoming more adaptable to change, thereby reducing management resistance. Yet, the increase in telework has not caught up with researchers’ and analysts’ expectations (DiMartino & Wirth, 1990; Joice, 2000).
Knowledge Worker (Telework Candidate)

A significant portion of the work done in many organizations is considered knowledge work, which makes the people who perform this work crucial to an organization’s productivity. Knowledge workers are key to organizational growth and are considered the fastest growing group of workers in the United States (Cortada, 1998). Knowledge workers are now estimated to outnumber all other workers in North America by at least a four to one margin (Haag, Cummings, McCubbrey, Pinsonneault, & Donovan, 2006, pg. 4).

The term knowledge worker is defined differently by a number of authors, some restrictive and some all-encompassing. Peter Drucker’s initial definition focused on a worker’s thinking ability rather than physical ability (Caddy, 2007). Horribe (1999) had a similar definition as workers who used their heads more than their hands. Amar (2002) categorizes knowledge workers as either Research & Development or Information Technology professionals. While Drucker, Horribe and Amar’s definitions seem broad, other authors have come up with definitions that encompass a more focused group of workers. Nor and Rosline (2005) define a knowledge worker as a worker performing non-repetitive, non-routine work; “The work entails substantial levels of cognitive activity…the workers possess specialized skills and training, which they have acquired by investing significant resources (time and money) towards their education” (p. 2). Sveiby, has a similar view. Sveiby studied the qualities of the worker and describes them as highly qualified and highly educated (Sveiby, in Nor and Rosline, 2005). Davenport (2005) characterizes knowledge workers as knowledge finders, knowledge packers, knowledge creators, knowledge distributors, and knowledge appliers. Similar to Davenport’s definition, Davis (2002) labels knowledge work as human mental work performed to generate
useful information and knowledge. These workers produce output from knowledge, including but not limited to, analyses, reports, evaluations, instructions, programs, plans, assurances, reasoning and arguments, decisions and action plans (p. 68).

The characteristics of a knowledge worker make him or her good candidates for telework. According to a 2008 research study by Dieringer Research Group, teleworkers are primarily male (61% vs. 39% female) with a median age of 38, are college graduates, and have a household income of $75,000 or more (ITAC, 2005). Teleworkers are characterized as able to work with minimal supervision, self-motivated, and able to work independently without the constant need for social contact. They mainly hold positions that have a high degree of flexibility and do not require the worker to be present. They have clear and consistent communication and organization skills, are technologically literate, meet deadlines and control workflow, and have previous records of good performance (Edwards, 2001). Vivadelli’s (2005) Network of Space, defined as a collection of connected work sites, allows knowledge workers to conduct business both inside and outside of the organization and does not require access to facilities and materials only available at the office, and can be performed independently with little oversight.

Business Continuity

Evolution of Business Continuity Planning

For years some organizations focused on “disaster recovery” which focused on the recovery of data and information systems after an unexpected event. Eventually, this led to the term “business recovery” which focused on the replacement cost of the facilities and equipment, which entailed getting the company up and running as quickly as possible. Both terms, disaster
recovery and business recovery, imply a stoppage of critical operations, resulting in unexpected and unproductive downtime.

World at Work (2009) defines Business Continuity (BC) as the ability of an organization to continue operating and provide service to customers when the organization has suffered an unexpected event. Business Continuity Planning (BCP) is defined as the process of developing advance arrangements and procedures that allow organizations to respond to events so that critical business functions continue with minimal interruptions. The federal government coined its own term, Continuity of Operations or COOP. The Federal Emergency Management Agency’s Federal Continuity Directive 1 (FCD 1) defines COOP planning as “…effective continuity planning and programs facilitate the performance of essential functions during all-hazards emergencies or other situations that may disrupt normal operations. The primary goal of continuity in the Executive branch is the continuation of essential functions” (Telework.gov, n.d.). Gill (2005) identifies another term, Workplace Continuity Planning, which is based on ensuring critical functions remain functional at all times. All of the terms address the same goal – maintaining the company’s work and its image with its employees, shareholders and customers during an unexpected event by demonstrating a proactive, rather than a reactive, approach to crises.

Penz (2003) argues, “The benefit of a well-constructed continuity plan is to minimize the likelihood that, in the event of a major disruption, the organization is so adversely impacted that it either ceases operation or is acquired” (p. 29). According to the Federal Emergency Management Agency (FEMA), in 2009, there were 59 major declared disasters and many smaller incidents that caused a halt to business operations. The American Red Cross (n.d.)
estimated that 40% of small businesses do not reopen after a disaster and another 29% fail within two years after the disaster, yet many organizations still operate without a business continuity plan in place. Most disasters are “unexpected” and operating without a Business Continuity Plan (BCP) will potentially put the organization in a situation where it is ill prepared and ill-equipped to handle the event. In 2003, Hurricane Isabel forced the Office of Personnel Management to shut down the National Capitol Region due to the weather emergency for 2 days at a cost of $120 million. This shutdown included all Federal services in the Washington DC metropolitan area. Deloitte experienced a similar situation after the 1993 World Trade Center bombing. Deloitte scrambled to relocate over 3,000 employees after they were displaced due to extensive damage of the building structure (ITAC, 2005). Both incidents were costly and time consuming for the organization, which could have been minimized with a business continuity plan in place.

In 2001, AT&T began conducting a yearly Business Continuity study to learn if U.S. business executives supported and performed business continuity planning in their organizations. The 2009 study is based on an online survey of 502 Information Technology executives in five U.S. metropolitan areas: Houston, Detroit, Southern California (Los Angeles, Orange County, San Diego), Florida (Miami, Orlando, Tampa), and Baltimore/Washington, D.C. The national average was projected using the numbers from the five metropolitan areas. Each company surveyed has total revenue of more than $25 million and 68% represented companies with locations outside the U.S. The 6-day study (February 9 through February 14, 2009) found that on a national level 48% of respondents said business continuity planning has always been a priority, 23% said it was not a priority, and 28% said business continuity planning was a priority.
due to recent/past disasters and threats. Eighty-three percent of organizations have a Business Continuity Plan, but only 58% have tested their plan within the last 12 months.

When looking at a specific area, for example Houston, favorable attitudes towards business continuity have increased. Since 2007 there was an increase in business continuity priority (35% in 2007 v. 53% in 2009) and 82% of respondents in 2009 have a Business Continuity Plan in place, compared to 78% in 2007. In 2007, 45% of respondents said that a BCP became a priority due to a past/recent natural disaster, security and/or terrorism threat, while it decreased to 29% in 2009. According to FEMA, Federal Emergency Management Agency, Houston experienced a natural disaster in 2005, Hurricane Rita, which was recorded as the 4th most intense Atlantic hurricane, which could have been one of the reasons the number was high at 45% in 2007. Between 2007 and 2009, Houston experienced two natural disasters, Tropical Storm Erin and Hurricane Ike. The decrease in percentage may have been due to an increase in business continuity priority, the fact that more companies in Houston have a BCP, and the plans have been updated to handle these types of disasters (62% in 2007 vs. 68% in 2009), similar to what Houston has experienced before.

As stated in the Introduction, an unexpected event is defined as natural, technological and human in nature, which leads to a business interruption or work stoppage that can create financial loss for an organization. Interestingly, the largest single source of insurance payout in the 9/11 terrorists attack was not property claims, but business interruption insurance. In 2006, it was estimated that business interruption payouts amounted to $12.1 billion, 33% of the $35.6 billion in total insured losses were from 9/11 (Insurance Information Institute, n.d.). In 2006,
business interruption claims from Katrina were expected to be about half of the $20.8 billion in commercial losses (Mowbray, 2006).

*Workforce Continuity*

The key players in continuing operations are the people of the organization. Sapirstein (2006) states, “one of the most overlooked and underappreciated factor concerns the impact of employees (p. 10).” Burke (2005) concluded from a literature review of the effects of 9/11 on individuals and organizations that those organizations that bounced back after 9/11 were those that had greater financial and human resources and more flexible work processes and structures, and observed that the employees are the ones that made the difference in how quickly these organizations rebounded (p. 635).

A study conducted by *Continuity Insights* magazine and KPMG Advisory Services, 2008 “Business Continuity Benchmarking”, reviewed responses from 872 online surveys and found that 35% of respondents identified “people issues” as the “weakest link” in their continuity plans and recovery efforts (Continuity Insights, 2008). Hence, the term workforce continuity, which is “a strategy that provides for connecting a dispersed workforce to the applications, data, and communications they need in instances where pandemic, transit strike, natural disaster, or other events prevent the workforce from reaching a corporate facility” (Rojas, 2006, p. 1). Workforce continuity focuses on employees and their ability to remain productive during a business interruption and their ability to perform their jobs and get back online as soon as possible. According to two companies, Citrix and Forrester, workforce continuity should be in conjunction with a business continuity plan and not viewed as a separate issue (Rojas, 2006).
**Continuity Planning and Telework**

Telework has become an important tool in business continuity. Telework’s dispersed workforce decreases downtime and minimizes the impact of a business interruption during a crisis, which leads to less lost revenue, less disruption of operations and improved responsiveness to customers. It is a tool for business continuity planning at all levels - from snowstorms that close offices in a region for a day or two, to pandemic influenza that may affect operations over the course of weeks or even months (Telework.gov, n.d.). Telework increases the agility of an organization allowing for more flexibility to recover more quickly than organizations without telework from unexpected business interruptions, thereby giving the organization a competitive advantage.

The Wall Street Journal’s experience with telework as part of its business continuity plan was successful in keeping its operations running despite the terrorist attack on September 11, 2001.

Only 12 minutes after the second plane crashed into the World Trade Center on September 11, 2001, staffers at The Wall Street Journal were ordered to evacuate their offices at 1 World Financial Center, just across the street from the Twin Towers. James Pensiero, the Journal’s assistant managing editor, stayed behind for a couple of minutes to issue e-mail instructions: editors meet at a backup facility in New Jersey; reporters work from home. Dashing from the building through smoke and rubble, Journal staffers became part of the very story they were covering. Some headed to a temporary newsroom in an editor’s apartment. Others fanned through the city to measure the effect of the catastrophe, then trudged home to file their stories. Throughout the day, reporters sent files from their home computers, using their personal email accounts. Not only did the Journal not miss a single issue during the crisis, it earned a Pulitzer Prize for its coverage. (ITAC, 2005, p. 1)

The catastrophic events of 9/11 and the 1993 bombing of the World Trade Center have forced organizations to rethink the concept of “putting all of their eggs in one basket.” The
business environment is a complex system. Roitz and Jackson (2006) illustrate a paradigm shift in the way people work from an industrial economy paradigm to a knowledge economy paradigm where the firm, model of firm, employment, skills, and time/space have evolved from facility based, stable, full-time, and clearly defined skills to knowledge based, global networks, self-employment and a full spectrum of skills. Their depiction is similar to how Bell (1973) describes the paradigm shift “communications begins to replace transportation as the major mode of connection between people and as the mode of transaction…making worksites less meaningful” (p. xlvi). There are some subsystems that rely on workers in a specific place at a specific time, for example some who work in the medical and dental field. There are specific hospital staff members that must be present to perform their duties, such as a surgeon who is tasked to perform an operation, or a dentist performing a routine checkup. “But when the products and services are knowledge, productivity derives not from physical work but from intellectual capital, which is not dependent on either space or time” (Roitz & Jackson, 2006, p. 4). Rojas (2006) concludes that “what is really important is the ability for employees to pick up their desktop – the applications they utilize, the office applications, pertinent data on their desktop, and full phone functions – and move that to another location and maintain continuity of that desktop” (p. 3).

There are many factors that are discounted when combining a telework strategy with a Business Continuity Plan (BCP). Rojas (2006) pinpoints that organizations are “flippantly relying on work-from-home capabilities that they don’t really have” (p. 1). Joice (2000) made the important observation that although the Federal government utilized telework during several crisis situations like the 1989 San Francisco earthquake and the 1995 Oklahoma City Bombing,
there was no established telework program in place. Although the government recovered from each crisis, the lack of preparedness caused unnecessary delays and lost opportunities that could have been avoided. For example, managers and employees were not adequately prepared. They did not have the necessary materials and equipment and they had no previous telework training or experience, which led to increased management resistance.

Gill (2005) emphasizes that preparedness and planning are essential in telework and Business Continuity Plan (BCP). It requires organizational planning, risk analysis, a review of the logistics and tactics needed, communication, data backup plans, and consistent and constant training of employees and management. IBM frequently tests its telework and BCP. According to an IBM spokesperson, “We want to be sure our solutions work for everyone (ITAC, 2005, p. 56).” Cynthia Froggatt, a workplace strategy consultant, clarifies that “an experienced teleworker is far better prepared to weather an unexpected disruption to their normal work routine than their more traditional counterparts” (ITAC, 2005, p. 23). They are better prepared to telework and are more likely to be ready to work when the contingency arises because they are comfortable with working “out of sight” from their co-workers and managers, they know how to remotely gain access to corporate systems, they have good non face-to-face communication, and they are a little more adept at handling IT issues on their own, and are familiar with working in an environment that is outside the company building (ITAC, 2005)

Contingency planning is important and it is an essential part of an organization’s structure and processes, and incorporating telework into a BCP is a process of developing advance arrangements and procedures that will enable an organization to respond positively to an unexpected event. In today’s environment, organizations are facing greater challenges and
contingency planning can help ensure they continue operations in the face of those challenges. The survivability (or resiliency) of the organization may depend on management’s ability to get their organization up and running as soon as possible.

**Organizational Resilience**

The study of resilience is deeply rooted in the field of psychology, from studies on child psychopathology to human behaviors such as thriving and coping. One of the pioneers of the study of resilience and child development is Dr. Ann Masten, a Child Psychology Professor at University of Minnesota. Her work focuses on resilience among children whose development is threatened by adversity. Masten (2001) refers to resilience as a “phenomenon characterized by good outcomes in spite of serious threat to adaptation or development” (p. 228). Dr. Masten has broadened her work to focus on understanding human development in relation to natural disasters among children and families. In her work, Dr. Masten created the following guiding principles as a framework for disaster planning for preparing a large population for disaster: (1) the nature of the threat must be considered; (2) developmental timing of experiences will influence the reactions of all human participants; (3) being prepared for a disaster before it strikes is imperative to overcoming the adversity associated with the disaster; (4) experiences and responses of individuals will be influenced by the functioning of the systems in which their lives are embedded, and particularly by the behavior of people they trust or who function as a secure base; and (5) it is important to identify the most likely first responders for vulnerable populations. They need to know what responses to disaster can be expected at all levels” (Masten & Obradovic, 2008, pp. 237-238).
Resilience is the ability to understand, cope, and most importantly thrive under a complex environment that is constantly changing. The research of Dr. Charles S. Carver, a distinguished psychology professor and author, focuses on resilience and thriving, and how experiences of adversity can sometimes yield benefits to the person who experiences it (Carver, 1998). Carver (1998) defines four levels of functioning (outcomes) when faced with adversity: thriving, resilience, survival with impairment and succumbing. Thriving is a response to challenge, rather than a response to threat. It assumes that an individual has experienced a crisis in the past and is now better able to deal with another crisis. For example, organizations that were involved in 9/11 or Hurricane Katrina, will most likely be able to “thrive” during a crisis in the event they experience a similar challenge in the future. The ability to recover and return to normal activities quickly after experiencing adversity is referred to as resilience. Survival with impairment and succumbing are exactly how they sound. Either the the person survived but is diminished or impaired due to the adversity the individual experienced, or the person has continued on a downward spiral and does not recover.

There have been numerous research studies on why an organization survives during and after a crisis or disaster, while others fail. Authors Horne and Orr (1998) and Mallak (1998) study resilience at the organizational level under the practice of organizational and human resources development. Similar to the work conducted in psychology, Horne and Orr (1998) and Mallak (1998) found that individual responses and reactions to adversity or change within the organization affect the response and reaction to adversity or change of the organization as a whole. Resilience is the ability to respond quickly and effectively to change while enduring minimal stress and disruption (Horne & Orr, 1998; Mallak, 1998). Organizational resilience is
not static, nor is it an attribute of an organization. It is dynamic and develops as a result of proactive planning and making organizations’ decisions (and often changes) that will provide the organization with the capability to bounce back and continue business operations during and after an unexpected event.

Horne and Orr (1998) define a resilient organization as one that contains a group of individuals within the organization that respond productively to sudden and significant changes. The focal point of their research revolves around the collective actions of people in the organization that affect the “system response” to disruption, a discovery that prompted the creation of the Organizational Resilience Inventory. The Organizational Resilience Inventory includes seven streams of behavior that contribute to resilient behavior; the people within the organization that have the same vision (community), skills and knowledge of the group (competence), relationships between the group (connections), the ability of the group to maintain trust and goodwill (commitment), information sharing (communication), timing (coordination), and internal benchmarking (consideration). The authors also developed a 74-item assessment tool to identify resilient behaviors within the organization. The tool is geared to create a dialogue to examine an organization’s resilient behavior and its strengths and weaknesses in regards to the seven streams of resilient behavior identified by the organization.

Mallak (1998) developed principles for implementing resilience in organizations that all companies can practice. These principles help organizations to view change as an opportunity, provide the necessary resources to allow a resilient response to adversity, be prepared to make quick decisions and ensure employees are well-informed and know exactly what to do during an unexpected event.
Business Cases

The ability to quickly recover from an incident, crisis or disaster has been linked to resilience and has yet to still focus on dealing with a disaster or crisis as it is happening. The question remains if other organizations can learn from these events and position themselves in a “thriving” state in the event a crisis or disaster happens to them. Resilience is more than mere survival; it involves identifying potential risks and taking proactive steps (Longstaff, 2004) to ensure that an organization thrives in the face of adversity (Kanigel, 2001). Having discussed the advantages and disadvantages of telework and how it applies to the field of business continuity and its effect on the resiliency of an organization in the literature review, Chapter 2 moves into a discussion of relevant business cases that shows the applicability of the literature to real world business situations.

Intel, AT&T and JetBlue Airways are companies that have experienced a disaster and had an established telework program and business continuity plan in place prior to an unexpected event.

Intel

Intel employs over 85,000 employees and half of the workforce utilizes telework as an alternate work arrangement. Intel experienced two unexpected events in 2003 and 2004 where Intel realized the benefit of telework as a component of the company’s business continuity plan; water damage to a building structure and a snowstorm that displaced thousands of employees, preventing them from getting to work.
On October 2003, in Folsom, CA, five hundred employee workstations were affected when a pipe broke on the second floor of the Intel building, releasing 7,000 gallons of water which covered 80,00 square feet of office space. Fortunately, the flood happened after hours and displaced employees were prepared to work from home and Intel was operational the next day with no loss of productivity. A product capability group director for Intel IT, Marty Menard, states, “Because our employees carry wireless laptops and usually take them home after work, we were operational the very next day and lost very few assets. Most were encouraged to work from another building or their home office. Those working from home were already familiar with connection procedures, which they used regularly, so they needed little help to begin working effectively again. There was virtually no loss of productivity” (ITAC, 2005, p. 22).

On the morning of January 1st in Portland, Oregon an unexpected snowstorm began and lasted for nine days. The snowstorm was an unusual occurrence in an area with a damp maritime climate that doesn’t typically experience major snow. The snow continued to fall over the next five days and on the sixth day a major freezing rain started and stayed for four days. Two major highways in and out of the Portland area and MAX, Portland’s light rail system, were closed. The Portland International Airport was shut down for 2 ½ days with no service due to severe icing (Oregon Photos, 2006). The snowstorm prevented 90% of Intel employees from getting to work in Hillsboro, approximately 13 miles from Portland. All 15,000 employees had laptops and were prepared and had the capability, training and experience to work from home. Menard stated, “We simply told them (employees) to stay home and work remotely, because employee safety is a top priority. You can’t predict emergencies like that, but having an environment that
consists primarily of mobile wirelessly enabled computers ensures they don’t impact our
business” (ITAC, 2005, p. 22).

**AT&T**

Disasters can strike anywhere at any time, swiftly and without warning. Disasters create
chaos, turmoil and heartbreak, but they don’t diminish AT&T’s commitment to our
customers. During times of trouble, people count on our network as they call for help,
contact support agencies and reach out to loved ones. AT&T’s commitment to our
customers doesn't stop when a natural or a man-made disaster occurs. AT&T recognizes
that when a community, town, city or region is struck by a catastrophic event, the rapid
recovery of communications is critical. (AT&T, 2010)

The statement above confirms AT&T’s commitment to its customers and maintaining
business as usual environment in an unexpected event. AT&T utilizes telework and a dedicated
disaster recovery team to get back online as soon as possible after an unexpected event occurs.
The company maintains a Network Disaster Recovery team, called NDR, to recover AT&T’s
voice and data service network to its customers during and after a disaster occurs. Within 48
hours after Hurricane Katrina touched down in New Orleans, the Network Disaster Recovery
team was able to restore 100% of AT&T’s networks. One day after the September 11 terrorist
attack in New York, the Network Disaster Recovery team arrived in Northern New Jersey and
recovered AT&T network services 48 hours later.

Telework is an integral part of AT&T’s culture. When New Orleans was hit with a
Category 5 hurricane (Hurricane Katrina), telework proved to be an effective strategy in
maintaining continuity of service to its customers. There were 125 AT&T employees who lived
or worked in the path of Hurricane Katrina. A virtual team was assembled that was made up of
AT&T employees from across the country to help the employees in New Orleans link to the
systems and applications needed to perform their work. The employees worked cross-functionally, communicating via conference calls, email, and instant messaging. AT&T’s intranet provided information the affected employees needed, such as policies and procedures, contact lists, network information, and status reports. “For those who had to evacuate, telework freed them to find safe haven without concern about their proximity to company offices….flexibility that made their return to some semblance of normalcy extremely rapid if not seamless that will continue to pay off in the weeks and months following the hurricane as people rebuild or relocate” (Roitz & Jackson, 2006, p. 4). Before, during and after Hurricane Katrina, AT&T employees were able to provide coverage and support to affected employees and customers. AT&T’s Vice President of Government Affairs, Alice Borelli, state, “when you look at the business continuity and the ability to work from home when there’s a hurricane or disasters like what we’ve gone through in D.C., and can continue operations even if you can’t go to the office, that’s crucial” (Joyce, 2005).

*JetBlue Airways*

"All of our reservation agents work at home," says the founder and chief executive of JetBlue Airways Corp., David Neeleman (Flanigan, 2004). JetBlue Airways’s reservation function is performed through virtual agents who work from home, a concept JetBlue calls “homesourcing,” which is the opposite of “outsourcing.” After initial training in its Salt Lake City reservation center, all reservation agents are allowed to work from home. During a Northeast snowstorm JetBlue’s employees were able to get to work and start booking flights, while other airlines struggled to get their employees to call centers during a blizzard. JetBlue estimates a savings of 20% per flight booked by utilizing a telework strategy. “One of the great
things about this system is that when things get busy, like during a weather event, we can send an e-mail to all agents asking them to log in to help. The response is immediate – we don’t have to wait for them to come in,” says Bryan Baldwin a spokesman for JetBlue Airways (Frase-Blunt, 2007, p. 89).

While Intel, AT&T and JetBlue Airways experienced positive outcomes when faced with adversity, Pacific Bell and Deloitte did not fair as well when an unexpected event occurred.

**Pacific Bell**

The Loma Prieta earthquake impacted Pacific Bell on October 17, 1989. The earthquake damaged several major transportation routes, which caused increased travel times and blocked some employees from getting to work. A study performed by Annette Bennett and David Little, examined the response to employee commuting issues of six firms that were affected by the earthquake. Out of the six companies studied, Pacific Bell experienced the most damage to its building in Oakland during the earthquake. Not only were most of the employees unable to report to work, the company’s core business process, telephone provider, was under intense demand from its customers. Before the earthquake, there was no telework plan in place. Following the earthquake, management allowed individual departments to make alternate commuting arrangements, including compressed workweeks, flextime, and telework. Two weeks after the earthquake Pacific Bell announced a telecommuting policy on a part-time basis and established satellite work centers in San Francisco and the San Fernando Valley in California (Mokhtarian, 1992).
In 1995, more than 2,000 Pacific Bell employees worked from a remote location (home, satellite centers, virtual offices). As one of the pioneers in the adoption of a telecommuting program, Pacific Bell published *Telecommuting Resources Guide*, a step-by-step instruction guide for implementing a telework program in the workplace. Today, Pacific Bell is known as AT&T, Inc. AT&T offers a comprehensive telework program as part of its business continuity plan and has found success in its ability to thrive during unexpected events.

*Deloitte*

Deloitte adopted a full-time telework program into the company’s business continuity plan after over 3,000 employees were displaced after the 1993 World Trade Center bombing. Due to the extensive damage of the building structure, employees were relocated to the World Financial Center, which was located one block away. Steve Silverstein, Deloitte’s Director of North American Real Estate explains, “It took us [several days] just to locate all our people and know if they were alive. We lost our building, some 600,000 square feet of office space; 3,000 employees were dislocated, one death, several injured, hundreds injured emotionally” (Deloitte & Touche, LLP, 2003).

After the World Trade Center bombing, almost all of the workers involved in the disaster became full-time teleworkers. Silverstein claims that the unexpected event changed people’s mindset about teleworking, “Even our most territorial workers learned that they could get their work done outside of the traditional office. It was an incredible boost to our ability to sell the concept of mobility to our employees and business units” (Agilquest, 2010). Today, Deloitte employees are offered the option to telework as part of Deloitte’s Mass Career Customization
(MCC) program where employees have the ability to create flexibility in their work life. Also in response to the bombing incident, Deloitte set up a Disaster Relief Fund to provide financial assistance to employees who have suffered a loss due to a natural disaster.

**Summary**

The overview of the literature and business cases provide insight into the impact a telework strategy integrated into an organization’s Business Continuity Plan (BCP) has on an organization’s ability to maintain business functions during and after an unexpected event. The advantages, disadvantages, and barriers associated with telework discussed in the literature provide a better understanding of some of the significant issues related to the adoption of telework and the impact telework has on both employee and employer. As stated in the business continuity section of the review, the main reason why some organizations do not have a business continuity plan is because management does not feel that a threat, like a terrorists attack, will happen in the near future. The literature has pointed out that the nature of a threat is anything that causes an organization to halt operations for a period of time, including a threat such as a terrorist’s attack or an event such as a snowstorm that prevents employees from coming to work. The cases presented bring a real-world approach to the study and integrate scholarly literature, applying the information to organizations currently operating today.

The concepts from the study of resilience in the practice of psychology are very relevant to the study of organizational resilience. It provides insight on the human capacity to thrive and recover from adversity. The resilience capacity of people within the organization will impact the response to an unexpected event. Masten (2001) writes that resilience comes from everyday, ordinary normative human behavior, not from rare and special qualities. This has profound
implications for an established telework program as part of a BCP, where teleworking is the “norm” and teleworkers will be prepared and ready when an unexpected event occurs.

The Literature Review provided evidence that suggests that telework is a viable business tool used by organizations to address work/life balance amongst their employees, save costs for both the organization ad the employee, and is being used as a component in a business continuity plan. Chapter 3 addresses the study’s research questions, discuss the findings from the Literature Review and review the conceptual model derived from the analysis of the findings.
Chapter 3: Analysis and Discussion

Introduction

This chapter reviews and discusses the findings derived from the Literature Review in the previous chapter. The purpose of this study is to explore the impact an established telework program included into a Business Continuity Plan (BCP) has on the resiliency of an organization during and after an unexpected event. The research questions that prompted the research for this study are as follows:

It is imperative to businesses that employ knowledge workers, where work duties, inside and outside the organization, can take place anytime and anywhere, to understand:

• How, if at all, an organization with an existing telework program is more likely to minimize the negative impact of a business interruption than an organization without an existing telework program.

• How, if at all, a telework program as part of a BCP decreases downtime in the event of a business interruption.

The review of the literature and the supporting real-world business cases presented in Chapter 2 resulted in four findings, which are the basis for the study’s conceptual model, which is discussed later in this chapter.
Findings

Finding 1: Despite the benefits of telework for both the employee and the organization, such as increased productivity, reduced costs, and increased employee satisfaction and improved work-life balance, there is still resistance by management in adopting a telework strategy.

Although telework boasts a variety of benefits for both the organization and employee, it is still a wonder why more companies do not adopt this strategy. One of the reasons found in the literature is management resistance to organizational change. The work of Huff, Huff and Barr (2000) focuses on individual cognition and how it relates to schema theory (stress and inertia). The authors define schema as “the routines of knowledge and understanding at the individual level.” The studies in their article conclude that once a schema has been developed, it is very difficult to change. Basically, once something is known, it is hard to adopt the unknown. It is my belief that management views teleworking as the “unknown.” Yukl (2006) identifies multiple reasons why a manager would be resistant to change, including lack of trust, economic threats, fear of failure, loss of status or power, threat to values and ideals to name a few. All are natural reactions by those who want to protect themselves from the “unknown.”

Hoang, Nickerson, Beckman and Eng (2008) pinpoint corporate culture as another deterrent in telework adoption. Management resistance stems from lack of management trust and the traditional managerial attitude of workers needing to be seen to be considered working. Telework requires a change in management style, which most managers are reluctant to change. The mind-set of a manager, who is accustomed to the physical presence of employees, will have to be modified in order to adopt a telework strategy. The change starts with a culture that provides a trusting and supportive environment with a high level of communication between
management and employees. The information presented in Daniels, Lamond and Standen’s (2001) work reflects Hoang et al.’s argument on the need for organizations to adopt a culture that is innovative and adaptable to change in order to be a candidate for telework.

Finding 2: (a) A BCP helps ensure essential functions during an emergency disaster event; (b) It is crucial for organizational survival for it to be prepared for a variety of emergency needs, ranging from minor incidents (e.g., flooded building) to major incidents (e.g., terrorists attack).

The purpose of a Business Continuity Plan (BCP) is to reduce the impact of a disaster and ensure business recovery in a reasonable amount of time. Rojas (2006) argues that the goal of a business continuity plan is to “continue” operations during a disaster or crisis (work stoppage/business interruption) and minimize the effects of the disruption. Business continuity planning has changed its focus from disaster recovery to business recovery to address the need to decrease the amount of downtime experienced during and after a crisis situation. Organizations are now realizing that their responsibility is not only to protect their information technology systems, but to eliminate or reduce harm to its employees and loss of customers, facilities, assets and records in the event the “unexpected” happens.

The concept of a BCP is portrayed in the “boiling frog” syndrome. The “boiling frog” syndrome takes one frog and puts in a pot of boiling water. The frog stays in the water until it starts to boil and it dies. The second frog is thrown into the boiling water and jumps out as soon as it touches the water. The frog is burnt, but still alive. The first frog died from “waiting,” while the second frog recognized danger and immediately took action (Frost, 1994).
Organizations without a BCP “wait and see,” and believe that an unexpected event will not happen to them (frog #1), while an organization with a BCP recognizes an unexpected event will occur sooner or later and understand that it is best to be prepared before it happens (frog #2).

Vivadelli (2005) states, “Natural disasters or manmade events can be just a moment away” (p. 23). It’s not a question of “if” it will happen, but “when.” Most business interruptions and work stoppages are unexpected and unscheduled, yet, many organizations do not think about business continuity until a disaster has occurred, making the organization ill prepared and ill-equipped to handle a major or minor disaster. Research has shown that people plan only for the immediate future when it comes to disaster preparedness (Devargas, 1999; ITAC, 2005). This is evident in the research conducted by Digital Research from a poll of 1,000 mid-large sized businesses on management attitude toward a BCP. Forty-eight percent didn’t consider a BCP a high priority and 25% do not think a disaster will happen to them (ITAC, 2005, p. 4). Devargas (1999) defines business continuity as “establishing the right processes, procedures and resources necessary to continue in business in an acceptable form when ‘something’ interrupts that business” (p. 36). The author’s use of the word “something” as it relates to a disaster identifies the need for organizations to be ready for any and all types of events that interrupt business functions.

A weather-related event is listed in Chapter 1 under Key Terms as a type of unexpected event. Figure 1 depicts a weather-related event that occurred on the East Coast in March 2009. The photo on the left in Figure 1 is a view of the U.S. Capitol building in Washington DC taken on March 1, 2009, the day before the snowstorm. The photo on the right is a view of the same Capitol building seen from a pile of snow taken on March 2, 2009 at 11:50 a.m. Eastern Standard Time.
Time. During the week prior to March 2, 2009, all residents on the East Coast were warned of a snowstorm that meteorologists claimed were going to cause havoc along the East Coast corridor. The following is a short list of headlines that appeared in online newspapers on March 2, 2009; Snowstorm Pounds Northeast, Snarls Travel (Foxnews.com), March Madness: Snow Storm Pounds East Coast (NBCWashington.com), Nor’Easter Blankets East Coast (CBSNews.com). A snowstorm also occurred in December of that year where the Washington, DC area reported a record 16 inches of snow, while Philadelphia reported 23.2 inches of snowfall, the city’s second largest snowfall since 1884 (The New York Times, 2009).

Figure 1: Photos of the U.S. Capitol Building in Washington DC the day before (March 1) and the day after (March 2) of the March 2009 snowstorm. Source: March 1, 2009 from http://flickr.com/photos/mbell1975/3319617988/, March 2, 2009 from http://blogs.denverpost.com/captured/2009/03/02/east-cost-snowy-storm/232/
Finding 3: Telework as a part of a BCP is a proactive management approach to disaster planning; together they reduce the negative impact of an unexpected event and result in improved and more effective emergency response and prevention.

Telework has become an important tool in business continuity. It has been argued that telework’s dispersed workforce decreases downtime and minimizes the impact of a business interruption during a crisis, which leads to less lost revenue, less disruption of operations and improved responsiveness to customers (DiMartino & Wirth, 1990; Drucker, 2002; Roitz & Jackson, 2006; Vivadelli, 2005). Telework is a business continuity planning tool at all levels – from snowstorms that close offices in a region for a day or two, to pandemic influenza that may affect operations over the course of weeks or even months (Telework.gov, n.d.).

Several studies demonstrated that telework increases the agility of an organization allowing for more flexibility to recover more quickly than organizations without telework from unexpected business interruptions, thereby giving the organization a competitive advantage. Joice (2000) provides evidence from a study of disasters (1989 San Francisco and 1994 Northridge earthquakes, Oklahoma City Bombing, and Atlanta Summer Olympic Traffic) that work stoppages reduce organizational output, productivity and customer service, and when appropriately applied as soon as possible after the onset of a work stoppage situation, telework minimizes workflow problems and bottom line impacts.

The work of Vivadelli is essential to this study. Vivadelli (2005) links the concepts of telework, Network of Space, and business continuity planning as a comprehensive solution to minimizing the duration of a business interruption when an organization’s employees can be
productive whenever and wherever. Telework disperses the workforce to a location outside of the physical building or facility. One of the key points in Vivadelli’s work is the definition of Network of Space, “a collection of interconnected work nodes that allows workers to be productive and work whenever and wherever needed” (p. 23). Work nodes consist of branch offices, assigned workplaces, conference centers, telework centers, hotels, airports, mobile/wireless, home offices, and customer sites that revolve around and are monitored by the main facility and technology network. Vivadelli (2005) also provides an eight-step process for integrating telework into an organization’s continuity plan, which includes laying the groundwork, investigating risk factors, identifying key resources, considering costs, making a decision, developing procedures, selling the plan to leadership, and testing and maintaining the plans and procedures (p. 25).

Finding 4: Resilient organizations are prepared to continue operations during and after an unexpected event.

In human behavior and organizational research, resilience is defined as the the ability to understand, cope, and, most importantly, thrive under a complex environment that is constantly changing; and the ability to respond quickly and effectively to change while enduring minimal stress and disruption. Theoretical descriptions of psychological resilience indicate that resilient people are able to bounce back from stressful experiences quickly and efficiently. Resilience may reflect gains in skill, knowledge, confidence, or a sense of security in personal relationships.

argues that the overarching goal is not only for an organization to be resilience, but for an organization to thrive to a state better than it was before an adverse situation. Carver (1998) explains the four potential responses to adversity – succumbing, survival with impairment, resilience, and thriving. Carver’s (1998) research focuses on the thriving response to adversity. The old saying, “What doesn’t kill you, makes you stronger” is relevant in Carver’s (1998) statement that “sometimes the experience of adversity promotes the emergence of a quality that makes the person better off afterward than beforehand” (p. 247). For Carver (1998), an organization’s ability to thrive is only as great as the individual’s embedded within the organization’s desire to thrive.

From another standpoint, Mallak (1998) taps into both an organization’s internal and external resource for self-efficacy and sustainability. Mallak’s (1998) principles on helping an organization to become resilient are “how to design and implement positive adaptive behaviors quickly that are matched to the immediate situation – while enduring minimal stress all the while” (p. 8). In 2008, the United States experienced a recession when the stock market tumbled. Organizations struggled to keep their doors open and tried to quickly adapt to the uncertain and turbulent environmental conditions that were inflicted across the United States and abroad. At the beginning of the recession, it seemed all of the financial banking institutions were in trouble, yet some have persevered (i.e., Chase, Bank of America, etc.) and remain open for business. On November 9, 2010, the *Washington Times* reported that the Federal Deposit Insurance Corporation (FDIC) shut down four banks on Friday, November 5, 2010, bringing the total of 2010 failed backs to 143, “the most in a year since the savings-and-loan crisis two decades ago” (Gordon, 2010).
Horne and Orr (1998) point out that organizational resilience is represented by an organization that contains a group of individuals that respond productively to sudden and significant changes. Horne and Orr (1998) identify several behaviors associated with a resilient organization and developed a 74-item assessment tool that helps organizations better understand how they will respond to major change. The assessment identifies seven streams of resilient behavior that contribute to a resilient organization. The seven streams are community, competence, connections, coordination, communication, commitment, and consideration.

The primary goal of any organization is to get its business up and running as quickly as possible after a disaster has occurred, keeping its reputation and assets intact (Hurley-Hanson, 2006; Burke, 2005). Recent disasters (i.e., 9/11 and Hurricane Katrina) illustrate the importance of organizational resilience in order to continue business operations during a recovery effort. Both events are examples of disasters that negatively affect an organization’s relationships inside and outside the organization. The leadership of an organization is responsible for enhancing and protecting shareholder value and maintaining relationships with suppliers, distributors and customers. This responsibility is ensuring organizational resilience which van Opstal (2006) defines as the ability to be “elastic and adaptive enough to stay on track, capable of retaining or resuming its position, capable of recovering rapidly from adverse conditions, and capable of taking advantage of opportunities when everyone else is dodging bullets” (p. 14).

Conceptual Model

The purpose of this section is to present a conceptual model that forms the basis for examining the importance of integrating a telework strategy into a Business Continuity Plan (BCP). The purpose of this model is to provide a visual framework to determine if an
organization that regularly employs telework as a normal business practice has a competitive advantage over an organization that only includes it in its BCP. The model suggests that telework is a viable business tool that minimizes the impact of a business interruption/work stoppage during times of crises. It shows the ability of an organization to understand the environment in which it operates, and function productively and successfully, and that environment will create an organization that is not only resilient, but an organization that thrives in the face of a crisis.
Figure 2: Conceptual Model
The conceptual model is developed based on two organizations’ experiencing the same unexpected event at the same time. The graph is divided into two organizations: one organization has a telework program in place prior to an unexpected event (Organization B) and the other does not (Organization A), yet both organizations include telework in their business continuity plan. It is also assumed that the telecommunications systems in the area and the organization’s networks are not affected and are available for use.

The graphic shows that when an unexpected event occurs, the organization with a telework program already in place (Organization B), and has a business continuity plan that includes telework as a component of that plan will minimize negative impact on productivity and continuity of business (resilience and thrive). It also shows that the organization without a telework program in place (Organization A) and a business continuity plan that includes telework will increase its risk of a negative impact on productivity and continuity of business (survive with impairment).

The model portrays the different outcomes an organization can encounter in the case of an unexpected event. Carver (1998) describes four outcomes when faced with adversity: thriving, resilience, survival with impairment, and succumbing. In this model, two outcomes are used with the combination of resilience and thriving to form one outcome and the removal of succumbing. For this study, resilience is more than mere survival; it involves identifying potential risks and taking proactive steps (Longstaff, 2004) to ensure that an organization thrives in the face of adversity (Kanigel, 2001). The examination of organizations that have succumbed to adversity is not within the scope this study.
**Resilience and thriving** reflect the results of an organization that proactively prepared the organization for an unexpected event. The organization with an established telework program and includes it in its business continuity plan enables workers and managers to sustain business operations with minimal interruption. These organizations fair well in adversity and are able to emerge post disaster with minimal interruption in their business operations. Examples of companies that are depicted in the model as Organization B are three companies presented in Chapter 2, Intel, AT&T, and JetBlue Airlines. All three organizations have either an established telework center or a telework policy. Each of these three organizations trains its workers and managers in telework and its employees have access to necessary equipment, services, and communication systems. The telework program in place prior to an unexpected event minimized the time it took for each business to resume normal conditions following the unexpected event each one experienced, enabling the organization to react quickly to customer needs and minimize shareholder concerns.

**Surviving with impairment** is an organization that survived an unexpected event, but experienced an interruption in normal business operations. Organizations who used telework as an emergency solution were able to get their operations up and running, but not without loss of valuable time waiting for management to set up remote locations, remote access to the company network, and communication systems. Two organizations that were presented in Chapter 2, Pacific Bell and Deloitte, are depicted in the model as Organizations A. Both organizations did not have a telework program in place prior to the unexpected event. While both companies continued to operate after experiencing adversity, the road to recovery was long and difficult.
Summary

Organizations with an established telework program and include it in their business continuity plan enable workers and managers to sustain business operations with minimal interruption. Established telework centers and policies of working from home, trained workers and managers in telework, access to necessary equipment, services, and communication systems minimizes the time it takes for the business to resume normal conditions following an unexpected event, enabling the organization to react quickly to customer needs and minimize shareholder concerns.

It is this author’s belief that this study provides organizations with important information to aid in their decision to adopt a telework program prior to an unexpected event and include telework as a critical and necessary component of their Business Continuity Plan.
Chapter 4: Conclusion

Analysis and Implications of Future Trends

The analysis and implications of future trends as they relate to telework and business continuity is conducted utilizing the STEEP analysis method. A STEEP analysis evaluates external factors that impact an organization’s decision to adopt a telework policy and incorporate the policy into its business continuity plan (BCP) (MBA Boost, 2010). The trends that play a role in the adoption of telework as part of a BCP include Social trends in the workplace, Technological innovation that may impact telework and BCP, Environmental concerns that affect management decision making, Economic impacts on how business operates and makes strategic decisions, and Political and government intervention and influences. In reviewing the material, it is evident that some of the dynamics mentioned can be a force in one or more of the categories in the analysis.

*S – Social.* The composition of the U.S. labor force has changed dramatically in the 20th century. Women comprised only 30% of the workforce in 1950. In 2009, the number jumped to almost half of the workforce (47%). Dual-earning families have increased from 24.6% in 1968 to 48.3% in 2008, which has encouraged public and private organizations to respond by implementing work/life balance programs to relieve time constraints of working families (Council of Economic Advisers, 2010). The current economic recession has increased the presence of women in the workforce due to the fact that the jobs that experienced significant losses were male dominated (construction, manufacturing, etc.). “The proportions of employed men and women are rapidly approaching parity, and women may actually represent a larger proportion of the wage and salaried labor force than men in the near future” (Galinsky, 2009, p.
4). The increase of women in the workforce will inspire a need for more flexibility in the workplace. Organizations that provide workplace flexibility benefits and policies such as telework will allow women to make productive contributions to the organization while also attending to family and other responsibilities.

Another change that is taking place today is the change in the age structure of the labor force. The pending retirement of the baby boomer generation is “forcing a larger number of employers to create alternative work arrangements for seniors whose skills cannot be readily replaced” (Gill, 2006, p. 118). In an effort to reduce “brain drain” and retain some of these workers, organizations are developing ways to retain these workers by putting policies and procedures in place to allow for the transfer of knowledge, such as documentation, cross training and mentoring. Baby boomers in the workforce carry with them a great deal of knowledge about the organization in which they are employed. Due to the recession and decreasing social security benefits, a significant number of adults are working past the age of 65. The U.S. has seen an influx of “retiring” baby boomers that need to continue working. Telework will benefit both employer and employee in this situation. The employer retains the knowledge and has time to implement cross-training and mentoring programs, while the employee is able to continue working under alternative working arrangements that may benefit his or her current lifestyle.

Today’s workforce is fundamentally different than in the past (20th century) and management’s approach will need to adapt to its available workforce. Some organizations have kept up with the changes and have slowly begun to restructure hours and location of jobs on an individual basis. In the future, this shift will be necessary to retain quality workers looking to reduce stress, eliminate long commutes, and resolve work/family conflicts.
T – Technological. Cyber technology is changing at lightning speed. Technology improves communication, information access and mobile work. Improvements in security, processing and storage power, and access to information will have a positive effect on telework.

IT security is one of the main concerns of telework. Companies, such as Citrix, are developing programs that reduce or eliminate downtime and ensure continuity of operations. The program, Citrix Access Suite, allows employees to access information via the Internet and be able to conduct business from anywhere at anytime (Telework Exchange, 2010).

Cloud computing and mobile computing are two emerging technologies that will benefit telework in the very near future. Cloud computing allows organizations virtual unlimited processing, storage and access to applications. All e-mails, software, documents, etc are stored in the “cloud” and do not require the use of storage on a workstation or server. Cloud computing will remove the need for physical space to house large servers and storage devices in organizations, and reduce the investment on software licenses and large hard drive storage devices for each workstation. Gartner analysts predict that one out of five businesses will own no IT assets at all by 2012 (Zyskowski, 2010) because trends such as cloud computing will lead to decreased IT hardware requirements.

Mobile computing allows workers to conduct business within the Network of Space – from anywhere and at anytime. Mobile computing utilizes portable devices, such as notebook computers, personal digital assistants (i.e., Blackberry and iPhone), cell phones, and WiFi to communicate and access information. Padma Warrior, Cisco’s Chief Technology Officer, predicts that one trillion devices will be connected to the Internet by 2013 (Zyskowski, 2010).
**E – Economic.** The 2008 recession took a toll on many organization’s financial positions. According to the Families and Work Institute’s study of 400 U.S. employers with 50+ employees, 66% of employers surveyed have suffered declines in revenue, while only 6% experienced growth (Galinsky & Bond, 2010). Cost cutting measures conducted by many employers during the recession include layoffs, hiring freezes, elimination of bonuses and salary increases, and a reduction in contributions to employee benefits such as healthcare and retirement savings plans. Some companies reduced costs by increasing or enhancing their current work/life balance programs. Of the employers who participated in the Families and Work Institute study, 19% utilized telecommuting to save on occupancy costs and 22% used compressed workweeks to cut overhead costs (Galinsky & Bond, 2010). Although economists claim that the United States is heading toward a recovery, companies have a long road ahead of them to achieve full economic recovery. Telework is not the single answer to full recovery, but it is a viable option in a cost savings strategy.

**E – Environmental.** The U.S. Environmental Protection Agency’s Clean Air Act aims to protect and improve the nation’s air quality and ozone layer. In 1996, the Clean Air Act was amended to include suggestions to help organizations with 100 or more employees to reduce their carbon footprint by reducing gas emissions. Suggestions included telecommuting, as a solution to reducing traffic congestion that results in air pollution and petroleum use that depletes the ozone layer.

In *Undress for Success: The Naked Truth about Making Money*, authors Kate Lister and Tom Harnish (2009) demonstrate how the use of telework could significantly reduce U.S. dependency on oil. In their analysis of data from the Environmental Protection Agency (EPA),
Department of Transportation (DOT), Small Business Administration (SBA), and the Census Bureau, they found that new teleworkers could save 625 million barrels of oil, reduce greenhouse gases by 107 million metric tons and save almost $43 billion at the pump on an annual basis (Lister & Harnish, 2009).

Another environmental concern is fatal illnesses, which are passed from person to person by respiratory and/or unsanitary conditions. These illnesses have the ability to cripple an entire city, as experienced in the 2009 H1N1 flu crisis in Mexico. The virus originated in a small rural town in southern Mexico and is responsible for the outbreak that is known as influenza A, H1N1. The CDC reports, “by the end of 2009, ≈70,000 cases were confirmed and 944 deaths were recorded in Mexico, and >600,000 cases were reported worldwide” (Rodwell et al., 2010, p. 1292).

There are government agencies that encourage the use of telework as a preventative measure for the spread of fatal diseases in the workplace – The CDC issued “CDC Guidance for Businesses and Employers to Plan and Respond to the 2009-10 Influenza Season,” OSHA issued “What Employers Can Do to Protect Workers from Pandemic Influenza,” and the U.S. Department of Health and Human Services issued “Preparedness Guide for Small Businesses (CDC, 2009; OSHA, 2009; HHS, 2009).” The documents listed have tips to minimize face-to-face interaction, and encourages businesses to allow sick workers to work from home rather than coming into a populated office.

The Act was introduced in March 2009 to “improve teleworking in executive agencies by developing a telework program that allows employees to telework at least 20 percent of the hours worked in every 2 administrative workweeks, and for other purposes” (Open Congress, 2010). The Act requires each U.S. federal government executive agency to establish a telework policy, determine which employees are eligible for telework, and communicate the policy to all employees.

In October 2008, before his election, Barack Obama outlined his vision for telework to the U.S. Department of Labor, stating "I believe that it’s time we stopped talking about family values and start pursuing policies that truly value families, such as paid family leave, flexible work schedules, and telework, with the federal government leading by example” (Obama, 2008). Workplace flexibility and work/life balance policies have made it all the way up to Capitol Hill. Several pieces of legislation are being examined regarding workplace flexibility, including the Working Families Flexibility Act (H.R. 1274), the Family-Friendly Workplace Act (H.R. 933), and The Family Work Flexibility Act, which specifically targets telecommuters by offering a tax credit for equipment purchased for telework use (Bowers, 2010).

Government influence will continue to gain the attention of organizations in stressing the financial benefits of offering telework programs. The state of Georgia developed a Clean Air Act campaign to encourage Georgia businesses to adopt telework. A benefit highlighted in the program is to ensure business continuity when inclement weather, public health concerns (H1N1), or disaster strikes. The State of Georgia offers special tax incentives for Georgia employers who adopt a telework program. Incentives include up to a “$20,000 tax credit for
starting or expanding a current telework program, and up to $1,200 per new teleworker” (Clean Air Campaign, 2010).

**Implications for Management Practice**

The implications for management practice touch on two key divisions in an organization and their role in Business Continuity Planning and telework adoption: Risk Management as a crucial function and Human Resources Management as effective change agents.

*Risk Management*

Business continuity had traditionally focused on protecting and recovering technology, but today’s focus is on the entire spectrum of business operations and governance. The areas of risk management and business continuity are now a top priority for many organizations, particularly after the Hurricane Katrina and 9/11 disasters. It is imperative that organizations understand and integrate basic principles of business continuity in organizational strategies and policies. A risk management department that plans for the organization’s continuity and disaster recovery mechanisms is critical to an organization’s continued operations in the event of a disaster. The mission of the Risk Management department is to establish and monitor systems for identifying, evaluating and controlling risk. Their role is to ensure that the employees of the organization are aware of business continuity plans and participate in “test drills” so everyone knows what to do, where to go, and whom to contact in case of an emergency situation. It is also imperative to take steps to reverse the “it won’t happen to me” attitude among management. As seen in the business cases previously presented in the literature review section of this study, even
a small disaster, such as a building flood can halt business operations and lead to downtime and a negative impact on revenue.

An organization’s Human Resource department also plays a key role in business continuity initiatives. The department is involved with employee communication before, during and after an emergency, providing assistance to employees (e.g., grief counseling), and ensuring adherence to government regulations and company policies.

**Human Resource Management**

The study contributes to the practice of management by pointing out a Human Resources Management (HRM) department is key to change within the organization. The HRM team is an effective change agent and has the ability to affect the entire organization. Several studies have demonstrated the importance of change agents (Weick & Quinn, 1999; Martinez et al., 2008; Hayton, 2005; Yukl, 2006).

The change agent creates or redirects change, seeks points of central leverage, builds commitment among employees, and facilitates organizational learning (Weick & Quinn, 1999). Hayton’s (2005) literature review describes the move from the traditional HRM model of “matching employee contributions to organizational needs” to building relationships among employees, the organization, and organizational stakeholders. HRM departments are responsible for understanding and addressing both individual and organizational fear of change. One of their duties as a change agent is to convince managers that the gains of telework adoption outweigh any losses. This duty involves dealing with management resistance and the need to encourage a corporate culture that is open to change.
Corporate Culture. Hayton (2005) focuses on the entrepreneurial aspect of change and addresses the contributions that HRM makes in maintaining a corporate culture that has the ability to accept risk, be innovative and be proactive. HRM plays a key role in maintaining or changing a culture in the organization by developing a supportive environment that encourages cooperation and creating a climate of trust. Hayton’s characteristics of HRM as a change agent is similar to Yukl’s (2006) depiction of change agents – “change agents establish trust and use a process of collaborative problem solving for contentious issues” (p. 301).

HRM’s understanding of the benefits and barriers of telework is crucial in supporting a culture that is willing to adopt the strategy. In the Martinez, Vela-Jimenez, and de Luis-Carnicer (2002) study of HR managers’ perception on the barriers and benefits of telework, it is evident that they are aware that management resistance to change and no or little telework knowledge are barriers to telework adoption.

Management Resistance and Trust. A change in corporate culture will help reduce management resistance. The mind-set of management that is accustomed to the physical presence of employees must be modified in order to adopt a successful telework strategy. The change starts with a culture that provides a trusting and supportive environment combined with a high level of communication between its management and employees. Most of the research has addressed management and has neglected the employee perspective. The relationship between employees and management is crucial in telework adoption. If employees perceive something entirely different from what management perceives, there will be a disconnect that will impair the adoption process. The perception of trust is a crucial factor in telework adoption.
Telework requires trust to make it work. Handy (1995) states that most organizations operate on the assumption that people cannot be trusted. This is evident in surveillance technology that many organizations use. Surveillance technology allows managers to monitor the actions of teleworkers as closely as they could monitor office-based workers. Lewicki, McAllister and Bies (1998) developed a framework for understanding trust and distrust within relationships. The authors define trust as “confident positive expectations regarding another’s conduct, and distrust in terms of confident negative expectations regarding another’s conduct” (p. 439). The framework consists of four cells: High Trust/High Distrust, High Trust/Low Distrust, Low Trust/Low Distrust, and Low Trust/High Distrust. Management resistance of telework falls within the Low Trust/High Distrust cell that shows signs of low confidence, wariness, watchfulness and management resources are devoted to monitoring employees’ behavior. HR needs to find ways to transfer into the High Trust/Low Distrust cell of the framework that indicate signs of confidence, interdependence, and pursuance of common objectives. It allows for a positive experience, management support, and encouragement of employees.

*Organizational Learning.* Martinez, Perez, Vela-Jimenez, and de Luis-Carnicer (2008) cite that HRM practices are key in creating an organizational culture of innovation, flexibility and trust. Their research found that the greater the employee access to HR practices and social benefits the greater the intensity of telework adoption (p. 22).

Training for both employees and managers can help overcome the barriers involved with telework adoption. Bell (1973) and Yukl (2006) clarify the importance of communication and the transfer of knowledge through a learning organization. Bell (1973) pinpoints the importance of communication and the flow of information as critical factors to the organizational change
process. Yukl (2006) promotes the concept of learning organizations and the importance of leaders to foster a learning organization. Yukl (2006) defines learning organizations as, “organizations that learn rapidly and use the knowledge to become more effective” (p. 310).

Huff, Huff, and Barr (2000) also touch on the learning and communication aspect by suggesting that managers who feel like they are involved in the decision to adopt teleworking and who are provided with the proper training on how to manage teleworkers are more willing to accept the transition to a teleworking program.

Human Resources Management can help create an organizational culture of innovation, flexibility and trust, through organizational learning which is essential to successful organizational change, and effective telework adoption.

Areas for Further Research

This study has identified that corporate culture and leadership style may have significant impact on the decision making of an organization and/or the resilience of that organization. There is limited work that focuses on resilience at the organizational level. Further research in the area of resilience provides several opportunities for future research development in leadership, corporate culture and knowledge management.

Resilience is a result of a culture built on empowerment, purpose, trust and accountability. A culture that encourages the diffusion and application of new knowledge is flexible and innovative. Miles (2007) states, “within trusting relationships, individuals freely collaborate in the process of innovation, sharing tacit knowledge and creating new knowledge
out of combinations and new interpretations of the pieces of knowledge each possesses. In every industry, most innovations are powered by collaborative knowledge-sharing relationships. It follows that organizations and managers that are capable of creating conditions that build and sustain trust, including a commitment to equitable allocation of the returns on innovations, are more likely to be successful” (p. 195).

Malhotra, Majchrzak, and Rosen (2007) and Van Dijk and Kark (2007) define leadership styles that are needed for organizational change, particularly when adopting an innovative strategy such as telework. They require organizations and leaders to change the way they have traditionally worked and to become innovative and adaptable to compete in a constantly changing environment. Van Dijk and Kark (2007) define two leadership styles, transformational (promotion) and monitoring (prevention), that are based on a leader’s values and self-regulatory foci that determine a leader’s ability to promote change and motivate the behavior of their followers. A transformational leadership style influences creativity, eagerness, risk taking, a willingness to make changes and an innovative culture. A monitoring leadership-style influences stability, risk aversion, tendency for accuracy, and a culture that values quality and efficiency. Malhotra et al. (2007) describe leadership qualities in terms of what is needed in leading a virtual team, which is similar to telework. Leadership practices listed in their article include the ability to establish and maintain trust, ability to communicate diversity, manage meetings, monitor progress, enhance external visibility, and communicate and provide individual benefits. All leadership styles and qualities are necessary to lead change, although it is still yet to be determined which leadership style and/or quality is most effective when leading change, such as in virtual settings.
Summary

Organizational culture and management resistance are two of the major deterrents to telework adoption. Both deterrents should be addressed as the move towards mobility and working virtually will become more prominent in the workplace. Further research should be directed towards understanding the nature of management resistance to change and the workforce methods needed to help organizations deal with resistance when it comes to adopting a new strategy, such as teleworking. The integration of telework and the business continuity concept will bring telework to the forefront of management’s minds, while at the same time supporting implementation of a flexible workplace.

The goal of many organizations is to self-maintain during a crisis and implement policies that lead to reduced vulnerability and business disruption. It is my belief that this study provides organizations with important information to aid in the decision to adopt and implement a telework program prior to a disaster/crisis and include telework as part of their BCP in order to maintain organizational output and productivity during and after an unexpected event.
References


