The Practice of Telecommuting: A Fresh Perspective

Franco GANDOLFI[1]
Gary OSTER

Abstract

Telecommuting has been a popular practice for an increasing number of firms and governmental bodies over the past decade or more. This research paper reviews antecedents, implementation considerations, known consequences, barriers, and recommendations that need to be determined prior to the adoption of telecommuting practices. The paper demonstrates that the phenomenon of telecommuting is the result of historical, sociological, and technological shifts and advancements. While firms have successfully implemented various elements of telecommuting practices, challenges along the way have yielded insights and lessons that merit further examination and discussion. This paper asserts that with selected individuals, proper structure, and sufficient feedback mechanisms in place, the adoption of telecommuting has the capacity to strengthen a firm's bottom line and provide tangible benefit for its employees. As a case in point, online learning, developed in parallel with the growth of telecommuting, yields substantial benefits for employees and the companies in which they serve. For employees, online learning is convenient, accommodates multiple learning styles, and is an engaging learning mechanism. For corporations, online learning encourages cost-effectiveness, uniformity in quality and flexibility, and enhanced cross-cultural and cross-disciplinary communications, all necessary to meet the challenges of the ever-changing global marketplace.

Keywords: *telecommuting, technology, online learning, social media, innovation, institutional learning, cross-cultural communications*

JEL classification: L96, D83

1. Introduction

Over the past decade or more, the practice of *telecommuting* has been in place for an increasing number of firms and governmental bodies. Still, there is neither universal definition nor accepted practical position as to why, when, where, and how telecommuting activities are best employed. To make a more informed recommendation about whether or not telecommuting should be introduced and leveraged, telecommuting antecedents, implementation considerations, known consequences, barriers, and recommendations need to be determined and studied.

[1] **Franco GANDOLFI**, School of Global Leadership & Entrepreneurship, Regent University, Virginia Beach, USA
E-mail: fgandolfi@regent.edu
Gary OSTER, School of Global Leadership&Entrepreneurship, Regent University Virginia Beach, USA,
E-mail: garyost@regent.edu

This paper shows that telecommuting is the result of historical, sociological, and technological shifts and advancements. It is not surprising that a multitude of organizations have successfully implemented various elements of the practice of telecommuting, yet challenges along the way have yielded insights and lessons that merit further examination and discussion. This research paper puts forth the assertion that with selected individuals, proper structure, and sufficient feedback mechanisms in place, the active adoption of telecommuting has the capacity to both strengthen an organization's bottom line and provide tangible benefit for its employees. Moreover, this paper asserts that online learning, a component of personal and institutional learning, has evolved in approximately the same manner and time period as telecommuting. Many of the same skills utilized in telecommuting are similarly necessary to successfully learn online, and online learning helps individuals and organizations consistently engage new skills and knowledge necessary in the volatile global economy.

2. Background

The notion of telecommuting has become part of the managerial lexicon over the past few decades (Gajendran & Harrison, 2007). Indeed, telecommuting in the United States of America has emerged as a concept that has attracted various definitions. For the purpose of this paper, the authors have adopted a rather straightforward (Ellison, 2004) definition. Telecommuting is an alternative work arrangement in which individual employees perform tasks elsewhere that are normally done in a primary (or central) workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the firm (Baruch, 2001; Bailey & Kurland, 2002). The notions of telecommuting or 'telework' both refer to "normal" work performed away from the office on a regular basis using telecommunications technologies (Vega, 2003). At its core, telecommuting relies on information and communication technologies (Cox, 2009) and occurs away from the office for a range of working relationships (Peters, Den Dulk, & De Ruijter, 2010). Clearly, the very mobility that enables telecommuting is partly what makes it so fragmented. For instance, full-time employees, contract workers, and even self-employed entrepreneurs embody the various profiles of telecommuters (Gurstein, 2001). More narrowly, this report will focus primarily on full-time employees since nearly 54 % of telecommuters in the U.S. were in a full-time employment relationship in the year 2000 (Vega, 2003).

Since definitions of concepts vary, percentages are not one hundred percent verifiable or reliable. However, it is probably safe to assert that the North American workforce has become, at some level, touched by telework (Vega, 2003; Cox, 2010), perhaps partially due to the fact that "nearly every traditional office job can be performed by a teleworker at least part of the time" (Vega, 2003). Stakeholders typically include employers, equipment suppliers, telephone companies, public agencies, consultants, researchers, and the workers themselves (Gajendran & Harrison, 2007). Thus, with so many individuals invested in this phenomenon, it is hardly surprising that a certain amount of ambivalence exists.

For example, who "*gets* to" telecommute versus who "*has* to" telecommute? Is it a benefit or a way to silo difficult employees? How widespread should it be within an organization? Should telecommuting be adopted at all?

According to Cox (2010), the following statistics need to be considered in order to continue a meaningful discussion:

- In 2009, 1.7 million more employees worked at home than in 2000. This figure represents a 31 % increase in market share (or an increase from 3.3 % to 4.3 % of all employment);
- The share of employees working at home rose in every major U.S. metropolitan area (over 1,000,000 population), with an average increase of 38 %, and was also strong outside the major metropolitan areas, rising 23 %;
- Finally, and most interestingly, at the current growth rate, more people could be working at home in the U.S. than riding transit transportation by 2017.

Moreover, working at home has been the fastest growing component of commuting for nearly 30 years (Cox, 2010). For instance, back in the early 1980s, working at home accounted for a mere 2.3 % of commuting (Cox, 2010). In 2009, this figure had nearly doubled to 4.3 %. Interestingly, this growth in popularity has been accomplished with virtually no public investment (Westfall, 2004) and without any loss of employee productivity (Cox, 2010; Peters et al., 2010).

Clearly, the above projected numbers (depicted in Cox's 2010 report) show that the desirability and popularity of telecommuting will most likely increase in years to come. It is probably safe to suggest that this development in turn will produce a new set of organizational, economic, social, and environmental implications and consequences.

3. Antecedents

It has been documented that the historical shift from an industrial economy to a predominantly service-based economic environment has created many jobs that can be done independently of a centralized facility (Gurstein, 2001). As a consequence, consultants, service representatives, and many other professionals are capable of performing their job responsibilities outside of a typical office. Another "sweeping change" (Gurstein, 2001) that has contributed to the advent and rise in popularity of telecommuting has been women entering (or re-entering) the workforce. With dual-income households becoming more typical, "the boundaries between work and family have changed" (Gurstein, 2001). While the blurring of work and family can be challenging for telecommuters, the newfound options are intriguing. Moreover, demographic shifts also play a role as new generations of information workers show increased comfort with the technological advancements that underpin and enable telecommuting (McLennan, 2008). According to Vega (2003), the "fearless young [who] are technological freethinkers" (p. 59) are also forming new organizational entities and believe "in the redemptive value of all things computer-related" (p. 59).

In contrast, Gurstein (2001) contends that there is an enduring "rugged individualism" (p. 196) that aligns well with telecommuting. More specifically, an

important cultural antecedent to telecommuting is a North American emphasis upon "individual initiative within a conformist consumer society" (Gurstein, 2001, p. 196). Indeed, a number of organizations have reported that they struggle with the effective inclusion of their telecommuters.

Ironically though, individuals have the ability to be more interconnected than ever before, in part thanks to the power of globalization. McLennan (2008) elaborates on this by stating that "the reduction of physical, geopolitical and mental boundaries" (p. 12) leads to new levels of innovation and integration as never experienced before (Westfall, 2004).

Back in the 1970s, telecommuting served as an antidote to people's dependence on and high costs of transportation (Gurstein, 2001; Scholefield & Peel, 2009). Particularly recently, telecommuting has come to be seen as a convenient way to support 'green' initiatives and demonstrate a commitment to environmental responsibility (Cox, 2009).

This can be achieved via reduced pollution from employees' commutes (Cox, 2010). Many employees also appreciate avoiding "mundane traffic" (Vega, 2003). As more corporations continue to focus on reducing costs and being "lean", they shift to an increasingly "flexible workforce…*not* in a corporate headquarters" (Gurstein, 2001).

Gurstein (2001) asserts that technological advancements are an obvious catalyst because they facilitate the popularity of telecommuting practices. More specifically, home offices range from a laptop on a kitchen table to a fully-outfitted, designated office in an individual's home (Cox, 2009). As computers were "democratized within organizations" (Gurstein, 2001), a new paradox emerged, in that with "increased accuracy and productivity came monitoring" (Gurstein, 2001).

Finally, while a nation's federal government is often viewed as lagging behind the private sector, the federal government in the U.S. was a significant catalyst to telecommuting's feasibility and its burgeoning popularity (Vega, 2003; Shanks, 2007). Beginning in 1990 with "*Flexiplace*" through the Clinton Administration to the passage of Public Law 106-346, Section 359 (requiring each executive agency to establish a telecommuting policy), such official and highly visible strides serve as potential models of effective telecommuting practices (Shanks, 2007). Many U.S. states offer case studies in telecommuting success, including Arizona and California, as well as many regional efforts (Vega, 2003).

4. Implementation Considerations

At its most basic, the physical set-up of an individual's work space at home may seem dull, but potentially can have a major impact on an individual's levels of efficiency and satisfaction. Several commonalities emerge regarding desirable spaces, including: professional space, separate entrances (sometimes even separate structures), and basic characteristics including natural lighting, ventilation, and electrical amperage (Gurstein, 2001). Vega (2003) adds that some of the more mundane aspects to consider are changing technology, security, and privacy. This has since been confirmed by

Whiteman and Dick (2006) studying telecommuting aspects in an Australian setting. These aspects will be presented and discussed separately.

Clearly, the actual work performed by an individual is an obvious consideration for determining telecommuting's suitability. There are many positions that lend themselves to telecommuting, with examples abounding in market research, consulting, IT support, and other fields (Gajendran & Harrison, 2007). However, there is empirical evidence suggesting that companies that heavily focus on client interaction struggle with the active adoption of telecommuting practices (Gurstein, 2001).

Indeed, the lack of separation between "work" and "home" – both mental and physical – can be challenging for telecommuters (Gurstein, 2001). The lack of visibility into these workers' day-to-day lives can also concern employers – "*Is X person really working, or just lounging in pajamas*?" Perhaps due to the existence of that stereotype, many telecommuters believe "their work is invisible to clients, family, friends, and neighbors" (Gurstein, 2001).

However, the absence from a physical office environment provides telecommuters the flexibility to structure their work day as they see fit. Studies have shown that some telecommuters work in spurts, others impose a 9-to-5 work schedule on themselves, while yet others work irregular hours to meet set deadlines (Gurstein, 2001).

Conversely and probably legitimately, telecommuters worry about their careers and advancement opportunities specifically due to a lack of visibility in the office (Vega, 2003; Scholefield & Peel, 2009). Similarly, the conduct of performance management activities can be a challenge because of the difficulty in measuring that which is not seen. This is particularly the case with "process" aspects of work (Vega, 2003). Nonetheless, some human resource (HR) theorists have posited that balanced scorecards and the setting of clear expectations may mitigate some of these challenges to some degree.

Examples of high-profile U.S.-based firms successfully implementing telecommuting practices include Sun Microsystems whose transition from a "centralized campus-based environment" to a "network of places" (McLennan, 2008) resulted in cost savings of more than $300 million since the program's inception. In a similar vein, retail giant Best Buy has reported that department voluntary turnover has decreased dramatically (i.e., more than 50 percent), productivity has increased an average of 35 percent, and employee satisfaction levels literally have skyrocketed (McLennan, 2008). In many ways, these corporations typify how telecommuting can be primarily utilized for organizational and economic benefits and, secondarily, as a means to provide an attractive, cutting-edge workplace for employees (Vega, 2003).

5. Known Consequences

On a grand scale and by its very nature, telecommuting has shown to produce "a mobile, flexible labor force" (Gurstein, 2001), which has the capacity to help organizations reduce their overhead costs (Yu, 2008; Cox, 2010). While the

majority of telecommuters in the U.S. live in urban areas, telecommuting makes it possible for people who live in more remote locations to stay employed (Vega, 2003). Telecommuters value having control over their time and space, but they must balance perceived autonomy with ongoing expectations of meeting and exceeding expectations in order to demonstrate the viability and workability of telecommuting practices.

There is unambiguous evidence to suggest reduced levels of stress from the lack of commute (Cox, 2010). While this is very positive for both telecommuters and their employers, new challenges are likely to arise. For instance, many female employees consider telecommuting a potential solution to their 'pull' between work and home by bringing the two -- physically and mentally -- closer together and by giving them more autonomy. Yet that very closeness can cause a new challenge in the need to separate work from home, balance responsibilities such as child care with their "real" job, and having business responsibilities intrude during perceived "off hours" (Gurstein, 2001). In contrast, men's attitudes highlight this unique gender-based challenge in that men who work from home primarily view themselves as engaged only in paid work (Gurstein, 2001).

Finally, Gurstein (2001) stresses that from a purely physical and mental health point of view, telecommuters can potentially struggle with a sedentary lifestyle and self-esteem issues stemming from not having the "symbols of their professional identity", such as a corner office or a corporate car space. Telecommuters may also miss the socialization aspects of a traditional corporate environment, resulting in a deep sense of isolation, which could potentially lead to psychological and mental health problems (Gajendran & Harrison, 2007).

6. Barriers

Resistance on the part of management to the active implementation of telecommuting remains an issue for many workplaces (Joice, 2007). Why do managerial employees remain hesitant about the adoption of telecommuting practices in the wake of the reported successes and organizational and economic benefits? While there may be a myriad of issues, a review of the extant literature does reveal three key reasons -– security, privacy, and trust.

First, telecommuting security is cited in the literature as a known managerial constraint to the adoption, diffusion, and success of telecommuting within firms (Ellis & Webster, 1997; Joice, 2007). Gray, Hodson, and Gordon (1993) were one of the first scholars to discuss security in any detailed way (cited in Whiteman & Dick, 2006). However, Gray et al. failed to analyze whether security was a determinant factor of management's decision. Instead, security was treated (along with technology) as a practical consideration to be addressed once a person is approved to telecommute. More recent publications, however, do address security as a risk that is a part of every telecommuting arrangement (Joice, 2007). For the purpose of this paper, telecommuting security covers both information security and physical security. The issue of information security includes data

within the telecommuter's home, and the information that is being transmitted between it and a corporate network. Physical security includes the telecommuter's hardware devices as well as possible theft or damage thereof. A number of information security issues have been identified in the literature. A large proportion of information security issues are raised in the popular press, as the subject matter of telecommuter computer and information security is a relatively new concept in the academic literature. An example of an information security issue covered in the literature is the complacency of management to rely on corporate firewalls to nullify the risk of unauthorized remote access (Goslar, 2000). Another information security issue addressed in the literature is a deliberate interception of company data by competitors or other unauthorized persons (Ford & Butts, 1991). Garner & Dick (1997; cited in Whiteman & Dick, 2006) reported that there is a perception in the minds of managers that allowing employees to access a corporate database from a remote site increases the risks of disclosure of commercial-in-confidence materials. Another issue, or risk, of telecommuting identified by the literature is the theft of equipment from a telecommuter's home (Zbar, 2000). Garner & Dick (1997; cited in Whiteman & Dick, 2006) reported that the safeguarding of corporate assets in the home is a concern to management. The issue of physical security involves a number of facets, and therefore a number of questionnaire items were included to canvas the various aspects. Finally, telecommuting can present legal issues, including a scenario where family members use corporate hardware to download illegal or unethical materials.

Second, surveillance and monitoring methods are available for the manager to maintain control over subordinates through the collection of objective data on employees, rather than relying on personal relationships (Fairweather, 1999). Computer-based performance monitoring allows managers to monitor telecommuting employees in great detail, and the availability of technology based access may even lead decision makers to seek out information they would not have asked for in person (Lally, 1996; Robertson, Maynard, & McDevitt, 2003). Both physical and information privacy are telecommuter-related issues, as the line between work and home blurs. Employer management boundaries are untested, and it is unknown, for example, whether an employer can legally enter an employee's home to inspect workplace safety or security measures. The issue of telecommuter privacy is a trade-off between the legitimate needs of a firm and the fundamental right of an individual to privacy. Spinello (1997; cited in Whiteman & Dick, 2006) argues that if a corporation has legitimate suspicions that an employee is using its systems for untoward or frivolous reasons, then the corporation should investigate. However, when there is no such suspicion, the possibility of the abuse of corporate systems should not outweigh the reasonable expectation of employees to be trusted by their employer. Employee privacy is related to the issue of the loss of direct control that many managers are uncomfortable relinquishing (Dowbrow, 1998; cited in Whiteman & Dick, 2006).

Third, the concept of trust is one that has received much attention in the information systems and decision science arena, and researchers are endeavoring to

model all possible dimensions of trust. The telecommuting literature suggests a lack of trust is a management attitude that influences telecommuting because it is believed that managers cannot manage what they cannot see, or that out of sight, employees will engage in opportunistic behavior (Handy, 1995). It is well documented in the telecommuting literature that the supervision method used by management has a relationship to the adoption of telecommuting. The vast majority of studies strongly correlate visual management, otherwise known as traditional management, with the inhibition and failure of telecommuting initiatives. The ability to see, or inspect workers is used by managers as the input to the productivity equation (Perrin, 1991; cited in Whiteman & Dick, 2006). Thus traditional management sees the need for direct personal control of employees because of a lack of trust in the employees and the assumption that employees need to be motivated by an office environment (Creed & Miles, 1996; cited in Whiteman & Dick, 2006). More importantly, management opposition to telecommuting is believed to be based on this more traditional lack of trust of employees (Munroe, 2007).

7. Recommendations

It is evident that there are a number of aspects and recommendations to be considered prior to the adoption of telecommuting practices.

First, like any major initiative, telecommuting can succeed or fail, but with the right people, structure, and feedback mechanisms in place, it can and should succeed. A recent study conducted by Goldman and Veiga suggests that job satisfaction is highest at moderate levels of telecommuting (Virick, DaSilva, & Arrington, 2009). However, it has also been shown that a worker's personality/type will likely affect that finding. For instance, "[for] employees with high drive and low enjoyment, job satisfaction will be highest when telecommuting is low or high (U-shape) and for all other employees, job satisfaction will be highest when telecommuting is moderate" (Virick et al., 2009). Moreover, employees who are more proactive and/or more comfortable with new technology may be better candidates for telecommuting activities (Virick et al, 2009). Clearly, while the successful outcome of the adoption and implementation of telecommuting practices largely depends on the individual employees, it is imperative to have an organization-wide policy as well as "clear, measurable goals" (Yu, 2008), to avoid creating confusion or rumblings of preferential treatment.

Second, allowing novice employees to telecommute should be considered particularly carefully. With such removal it is challenging for telecommuters -- let alone inexperienced employees -- to feel a part of an organization and invested in its success (Ernst & Young, 2008). Likewise, managers may find it difficult to continue to monitor telecommuters at all times. If a telecommuter proves to be working and available around the clock, thanks to technology, the telecommuter and his/her manager must establish clear boundaries. This takes mutual discipline, patience, and self-awareness (Ernst & Young, 2008).

Finally, conscious efforts should be made so that telecommuters feel a part of the organization in that technological interactions are not a perfect substitute for interpersonal interaction. Sharing in the organizational culture does not have to happen every day in an office, but meaningful events such as retreats, conferences, and company rallies instill a sense of purpose and clarify goals and values for all involved (Vega, 2003). Telecommuters' experience of the organization is naturally fragmented, so it is vital to repeat visions and missions to ensure people feel a part of something bigger than themselves (Vega, 2003).

8. Case in point: Learning

Many of the recent changes in technology, globalization, and value-chain rationalization that have encouraged the expansion of telecommuting have similarly heightened the necessity for protracted and effective institutional learning. The volatile global economy requires a steady stream of learning at all levels of the corporate hierarchy. The rapid and continuous changes in all types of working environments obviate a need to rapidly train and retrain people in new technologies, products, and services found within the environment (Harun, 2002). Without question, new technologies and downstream products and services are emerging with accelerating speed. The fast-changing pace of technology, shortening product development cycles, lack of skilled personnel, increasingly competitive global economy, the shift from the industrial to the knowledge era, the migration towards a value chain integration and the extended enterprise all propel the strategic importance and realization of institutional learning (Wentling, Waight, Strazzo, File, LaFleur, & Kanfer, 2000). Also, the shelf-life of information and training is rapidly declining. For those reasons, "training managers feel the urgency to deliver knowledge and skills more rapidly and efficiently whenever and wherever needed. In the age of just-in-time production, just-in-time training becomes a critical element to organizational success" (Urdan & Weggen, 2000).

Organizations cannot possibly identify and hire fully-trained experts quickly enough to satisfy the needs for new organizational learning. Therefore, all competitive organizations must develop new internal learning methods, particularly those that enable *quicker* learning (Marquardt & Berger, 2000). As companies become increasingly knowledge-based, data and training become rapidly obsolete, just-in-time training becomes a basic survival need, and identification of cost-effective ways of reaching a diverse global workforce becomes critical. The ongoing skills gap and demographic changes heighten the need for new learning models while flexible access to lifelong learning is highly desired (Wentling et al., 2000). Learning has become an important continual process rather than a distinct event (Urdan&Weggen, 2000).

Enhanced learning does not simply allow the reaching of the company's full potential: survival in the 21st century as individuals, organizations, and nations will depend on the capacity to learn and the effective application of that learning to

daily actions (Harun, 2002). More and more, the challenge is not only to legitimate local knowledge; it is also to redeploy it in such a way that it is put to use globally (Ichiho & Nonaka, 2007). The necessity of learning has caused a paradigm shift in the way education is viewed and delivered. For many years, corporations viewed learning as an annoying cost factor. Increasingly, it is considered a competitive weapon. Business success depends more and more on high-quality employee performance, which in turn requires high-quality training (Urdan & Weggen, 2000).

9. Online Learning

Corporations have long utilized training methods such as classroom instruction, mentoring, training manuals, correspondence courses, conferences and seminars, and apprenticeships to transmit essential corporate knowledge. Today, for many reasons, corporate training primarily takes the form of online courses (Downes, 2005). Long the province of progressive universities, online learning has quickly become an important weapon in the arsenal of corporate warfare. Through the use of inexpensive yet powerful software and the distributive architecture of the Internet, corporations now have the ability and motivation to combine a series of discrete, unlinked, and unmeasured activities into an enterprise-wide process of continuous and globally distributed learning that directly links business goals and individual learning outcomes (Wentling et al., 2000). Regardless of the type of information, online learning is typically housed in a remote server, utilizes the Internet as its channel of delivery, and is reviewed on a desktop computer, laptop, personal digital assistant (PDA), smartphone, or cellular telephone. Online learning is applicable to *all* areas of workforce training, including career development training, incoming employee orientation, new service or product information, significant academic learning, or simple updating and upgrading of work knowledge, competencies, and skills (Harun, 2002).

10. Benefits of Online Learning

Although research has shown considerable financial benefits for firms that use online learning, there are other significant upsides, including convenience, standardized delivery, self-paced learning, and a wide variety of available content (Strother, 2002). Urdan and Weggen (2000) note that knowledge workers require greater flexibility in the workplace. Knowledge workers similarly necessitate flexibility in how they obtain information. Some of the benefits of online learning are considered here:

Convenience - By leveraging training and learning over the Internet, organizations can eliminate the need for classroom time, thereby dramatically reducing costs and improving real-time access to information (Harun, 2002). Online learning may be accessed and utilized on a 24-hour basis and wherever there is an appropriate internet connection. Employee students have just-in-time

access to timely information (Urdan & Weggen, 2000), and may choose when they are available to learn, and may themselves decide at what rate they can best learn (Harun, 2002). Employees can re-visit training online for a personal refresher course, or immediately before actually trying something new. Work schedules used to be significantly interrupted for hours or even days when employees had to travel for training classes, and employees often faced exceptionally stressful travel environments (Urdan & Weggen, 2000). This is no longer an issue because of online learning. About one third of corporate online learning is currently done by employees during "dead-time," those periods at home or while traveling that normally would not be available for company training. Many employees use non-compensated time to complete their online learning, providing a significant savings to their employer.

Measurement - By using pre-tests/post-tests, companies can determine the level of learning success by employees. Online learning respects the constrained time of employee students. Many online programs ask the student to take periodic quizzes, and then channel the instruction to cover only those areas on which the employee student needs additional training.

Verification - In the United States, federal, state, and municipal laws and regulations govern the health and safety training received by employees. This is especially true in the medical and transportation industries. Online learning provides secure verification that an employee has successfully completed required training.

Learning Style Accommodation - Employees use a variety of methods to successfully learn. For example, some learn far better using graphics as opposed to text. Unlike static classroom instruction, online learning helps satisfy many learning styles because it is amenable to the use of text, videos, lectures, pictures, diagrams, case studies, and audio discussions. Virtually anything can be taught online. Even typically "hands-on" subjects like chemistry, gross anatomy, and forklift safety, are effectively taught online. Because of the availability of many teaching methods, online learning is especially helpful to present complex or confusing information, because it can be dissected, simplified, and enhanced with numerous examples provided. Information retention is consequently higher than classroom or training manual-based instruction (Urdan & Weggen, 2000).

Quality Enhancement - Highly polished learning modules can be developed and utilized by student employees throughout the world, maintaining exceptional standards of pedagogy and presentation.

Engagement - Unlike other static forms of education and training, online learning can be especially dynamic and interactive. Students cannot "hide" online and are regularly encouraged to participate. Interestingly, student employees who are normally very passive in a classroom often come alive and are enthusiastic participants online. Online learning encourages two-way communication between the students and instructors, both in real-time (synchronous) or when they desire (asynchronously). Employee students often report greater satisfaction with online learning because it employs higher-order cognitive skills—the ability to analyze

problems and find the right resources for solving them, often with both limited and conflicting information (Marquart & Berger, 2000). Online learning is especially appreciated by younger employees because it is "me centered," and the consumer/client-centered culture in today's society has provided a climate where the use of student-centered learning is thriving (Downes, 2005).

Change - Because of the infinite malleability of online learning modules, online learning can easily be upgraded and changed as revised information and corporate priorities are apparent. Moreover, learning modules can easily be focused down to the situation of individual learners, such as by industry, position, location, and others.

Networking - Online learning sites can also be a "jumping off" portal for employee students who desire more comprehensive or advanced training, or access to additional online learning modules.

11. Online Learning and Social Media

The connectedness of Gen. X and Gen. Y employees coupled with the rise of social media on cellular phones and the Internet have had unanticipated and profound effects on online learning. Online learning programs now feature audio and video chat capabilities, the use of instant messaging, online asynchronous dialogues, and video file sharing that align with the learning and communications strategies of this new cohort. As Downes (2005) noted, "They absorb information quickly, in images and video as well as text, from multiple sources simultaneously. They operate at 'twitch speed,' expecting instant response and feedback" (p. 2). Online learning is quickly morphing from a one-way passive experience to a multidimensional tool for virtual teaming or collaboration, critical thinking, knowledge sharing, and enhanced student engagement (Kim & Bonk, 2006).

Another unanticipated benefit related to the increasingly social nature of online learning is its value for employee students to learn multiculturalism. Unfortunately, Western society has long focused on individual talent and achievement and has heretofore ignored the immense inherent value of collective differences (Page, 2007). The ability to cooperatively engage those from other countries or cultures who are significantly different is essential to success in this modern age. Online learning can play a key role in facilitating the building of social and problem-solving skills as well as helping to establish shared meaning, even at the most basic level of language instruction (Hagel & Brown, 2005). An extremely diverse employee base is valuable only if the fresh, new ideas they acquire can be received, stored, and efficiently shared with others in the organization (Gryskiewicz, 1999). Institutional learning systems may be either formal or informal (Nonaka & Takeuchi, 1995), and are crucial to positive organizational change (Day & Schoemaker, 2006). For learning systems to be rendered effective, internal barriers to communication must be intentionally disassembled (von Krogh, Ichijo, & Nonaka., 2000) and new, non-traditional alliances developed both internally and externally (Dyson, 2003).

Placing employees from a number of countries can have significant impact on their ability to understand and cooperatively work with each other. Cultural nuances can be learned first-hand from nationals from other countries, preferably from those who know all the cultural road signs and traffic rules, and can both guide and provide feedback as students form new mental maps and behavior patterns (Black, Morrison, & Gregersen, 1999). Online learning encourages diverse people to form cohesive workgroups, collaborate, and appreciate one another's talents. The cross fertilization of talent often generates results that exceed the sum of participants' separate abilities (Liedtka & Friedel, 2008). The trend is toward building not just working relationships, but also human relationships that build trust and open the channels for knowledge, sharing, and creativity (Allee, 2003). Whether intentional or by accident, online learning composed of employee students from around the globe can develop new, strong community ties and knowledge of other cultures that may be helpful in other corporate activities.

12. Online Learning and Corporate Innovation

Every modern corporation asks how it can better sense and respond to its environment, how information received in one area of the company is effectively transferred to other sections of the firm, and how the organization can better support internal "neural networks", especially at the critical synapses where knowledge and ideas transfer from one person or group to another (Allee, 2003). As leadership scholar Warren Bennis noted, "Without openness, the crucial problems might never be discovered, solutions might never be found" (Bennis & Biederman, 1997). The successful generation of new, *different* ideas is based largely upon the diversity of motivations, experience, and thought among corporate employees (Sutton, 2002). Such diversity is intentional (Amabile, 1998) and must extend far beyond race and gender (Andrew & Sirkin, 2006). Online learning programs can be critical to fostering the open communications needed in organizations to engender innovation and for employees to learn how to share information effectively (Bennis and Biederman, 1997).

"Information spillover," ultimately necessary for innovation, has been accomplished through various mechanism through the centuries, including the geographic density of cities in the Renaissance and the postal system in the Enlightenment. Today, the Internet has effectively reduced the transmission costs of sharing good ideas to zero (Johnson, 2010). However, idea generation sans idea generalization cannot be viewed as true corporate learning capability (Ashkenas, Ulrich, Jick, & Kerr, 2002). The corporate learning capability is the organization's collective ability to learn from experience and to pass those lessons across boundaries of geography and time. Companies using online learning to train employees to effectively take advantage of the intelligence and ideas of all their employees will be much more successful than those that rely on a few people to lead (Carris, 1994).

13. The Future of Online Learning

The early years of television were built around the real-time capture of the types of entertainment that had preceded it, including vaudeville, staged dramas, and live big-band performances. It took years before television stretched to achieve that which only could be accomplished on television. The first two decades of online learning (1995 – 2015) were structured just as a typical classroom would be. Major review of the early years of online learning showed that few online instructors surveyed actually used online activities related to critical and creative thinking, hands-on performances, interactive labs, data analysis, and scientific simulations, although they considered these activities highly important in online learning environments (Kim & Bonk 2006). Similarly, few respondents said that near-term changes would come in the form of peer-to-peer collaboration, digital libraries, simulations and games, assistive technologies, and digital portfolios. Their emphasis remains on a knowledge-transmission approach to education, not one rich in peer feedback, online mentoring, or cognitive apprenticeship (Kim & Bonk, 2006). Teachers generally will only use online that which they have successfully employed in the classroom.

Only today, with the explosion of handheld devices, ubiquitous high-speed Internet, and always-on global interaction through instant messaging and online video, are we beginning to see substantive changes in online learning. Recently, the World Wide Web has shifted from being a medium in which information was transmitted and consumed, into being a platform in which content was created, shared, remixed, repurposed, and passed along to others (Downes, 2005). Online learning will similarly experience more change in the next decade than it has since appearing in the mid-nineties. Almost all of those coming changes will make online learning more intriguing to watch and more effective in providing the essential knowledge and skills needed by employees of today and the future.

REFERENCES

1. Allee, V. (2003). *The future of knowledge,* New York: Elsevier
2. Amabile, T. (1998). How to kill creativity, *Harvard Business Review,* 76 (5), pp. 77-87
3. Andrew, J., & Sirkin, H. (2006). *Payback: reaping the rewards of innovation,* Harvard Business School Press: Boston
4. Ashkenas, R., Ulrich, D., Jick, T., & Kerr, S. (2002). *The boundaryless organization,* San Francisco: Jossey-Bass
5. Bailey, D.E., & Kurland, N.B. (2002). A review of telework research: findings, new directions and lessons for the study of modern work, *Journal of Organizational Behavior*, 23, pp. 383–400
6. Baruch, Y. (2001). The status of research on teleworking and an agenda for future research, *International Journal of Management Reviews*, 3(2), pp. 113–129

7. Bennis, W., & Biederman, P. (1997). *Organizing genius,* New York: Addison-Wesley

8. Black, J., Morrison, A., & Gregersen, H. (1999). *Global explorers,* New York: Routledge

9. Carris, B. (1994). *Long term plan for the Carris Community of Companies,* Rutland, VT: Carris Financial Corporation

10. Cox, W. (2009). Executive summary: improving quality of life through telecommuting, *The Information and Technology Foundation*, January 2009, pp. 1-22

11. Cox, W. (2010). Decade of the telecommute. http://www.fcpp.org/ publication.php/3451

12. Day, G., & Schoemaker, P. (2006). *Peripheral vision,* Boston: Harvard Business School Press

13. Downes, S. (2005). E-learning 2.0, *eLearn Magazine*, Oct. 16, 2005. Downloaded 4 March 2011 from http://www.elearnmag.org/subpage.cfm?section=articles&article=29-1

14. Dyson, J. (2003). *Against the odds,* New York: Texere

15. Ellis, T., & Webster, R. (1997). Information systems manages' perceptions of the advantages and disadvantages of telecommuting: a multivariate analysis, *IEEE*, 1060-3425, pp. 94-98

16. Ellison, N. (2004). *Telework and Social Change*, Westport: Praeger

17. Ernst & Young (2008). *Risk at home: privacy and security risks in telecommuting*, Center for Democracy & Technology, Ernst & Young. http://www.cdt.org/privacy/20080729_riskathome.pdf

18. Fairweather, B. (1999). Surveillance in employment: the case of teleworking, *Journal of Business Ethics*, 22(1), pp. 39-49

19. Ford, R., & Butts, M. (1991) Is your organization ready for Telecommuting?, *SAM Advanced Management Journal*, 56, pp. 19-23

20. Gajendran, R.S., & Harrison, D.A. (2007) The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences, *Journal of Applied Psychology*, 92(6), pp. 1524-1541

21. Goslar, M. (2000) The new e-security frontier, *Informationweek*, July 10. http://www.informationweek.com/794/secure.htm

22. Gryskiewicz, S. (1999) *Positive turbulence,* San Francisco: Jossey-Bass

23. Gurstein, P. (2001) *Wired to the World, Chained to the Home: Telework in Daily Life*, Vancouver: UBCPress

24. Hagel, J., & Brown, J. (2005). *The only sustainable edge,* Boston: Harvard Business School Press

25. Handy, C. (1995). Trust and the virtual organization, *Harvard Business Review*, 73(3), pp. 40-50

26. Harun, M. (2002). Integrating e-learning into the workplace, *Internet and Higher Education*, 4, 301-310

27. Ichiho, K., & Nonaka, I. (2007). *Knowledge creation and management: new challenges for managers,* Oxford: Oxford University Press

28. Johnson, S. (2010). *Where good ideas come from,* New York: Riverhead Books

29. Joice, W. (2007). Implementing telework: the technology issue, *Public Manager*, 36(2), pp. 64-68

30. Kim, K., & Bonk, C. (2006). The future of online teaching and learning in higher education, *Educause Quarterly,* Nov. 4, 2006, pp. 22-30

31. Lally, L. (1996). Privacy versus accessibility: the impact of situationally conditioned belief, *Journal of Business Ethics*, 15, pp. 1221-1226

32. Liedtka, J., & Friedel, R. (2008). Possibility thinking, *Rotman Magazine*, Winter, pp. 15-19

33. Marquardt, M., & Berger, N. (2000). Global leaders for the 21st century, Albany: State University of New York Press

34. McLennan, K.J. (2008). *The Virtual World of Work: How to Gain Competitive Advantage through the Virtual Workplace*, Charlotte: Information Age Publishing, Inc.

35. Munroe, F. (2007). Managing privacy and security compliance, *Journal of Health Care Compliance*, January/February, pp. 69-85

36. Nonaka, I., & Takeuchi, H. (1995). The knowledge-creating company, Oxford: Oxford University Press

37. Page, S. (2007). *The difference,* Princeton, NJ: Princeton University Press

38. Peters, P., Den Dulk, L., & De Ruijter, J. (2010). May I work from home? Views of the employment relationship reflected in line managers' telework attitudes in six financial-sector organizations, *Equality, Diversity and Inclusion: An International Journal*, 29(5), pp. 517-531

39. Robertson, M.M., Maynard, W.S., & McDevitt, J.R. (2003). Telecommuting: managing the safety of workers in home office environments, *Professional Safety*, 48(4), pp. 30-36

40. Scholefield, G., & Peel, S. (2009). Managers' attitudes to teleworking, *New Zealand Journal of Employment Relations*, 34(3), pp. 1-13

41. Shanks, J. (2007). Federal Telework: A Model for the Private Sector, *Public Manager,* 36(2), pp. 59-63

42. Strother, J. (2002). An assessment of the effectiveness of e-learning in corporate training programs, *The International Review of Research in Open and Distance Learning*, 3(1), pp. 1-17

43. Sutton, R. (2002). *Weird ideas that work,* New York: Free Press

44. Urdan, T., & Weggan, C. (2000). Corporate e-learning: exploring a new frontier (White Paper), *WR Habrecht and Company*, March 2000, 1-94

45. Vega, G. (2003). *Managing teleworkers and telecommuting strategies*, Westport: Praeger

46. Virick, M., DaSilva, N., & Arrington, K. (2009). Moderators of the curvilinear relation between extent of telecommuting and job and life satisfaction: The role of performance outcome orientation and worker type, *Human Relations*, 63(1), pp. 137-154

47. von Krogh, G., Ichijo, K., & Nonaka, I. (2000). *Enabling knowledge creation,* Oxford: Oxford Press

48. Wentling, T., Waight, C., Strazzo, D., File, J., LaFleur, J., & Kanfer, A. (2000). The future of e-learning: a corporate and an academic perspective (White Paper), University of Illinois at Urbana-Champaign Knowledge and Learning Systems Group

49. Westfall, R.D. (2004). Does telecommuting really increase productivity? *Communications of the ACM*, 47(8), pp. 93-96

50. Whiteman, S.A., & Dick, G.N. (2006). Telecommuting – in this virtual world, what is holding it back?, *International Workshop on Telework, Fredericton, Canada, Conference Proceedings*. http://www.teleworkaustralia.net.au /doclibrary/public/Research/ Telecomm uting-formatted.pdf

51. Yu, S. (2008). How to make teleworking work, *Communications News*, 45(12), pp. 30-32

52. Zbar, J. (2000). Working home alone? How's the security?, *Network World*, November 13, 2000