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ORGANIZATIONS AS CONSUMERS OF HUMAN CAPITAL VIA TECHNOLOGY: A POLICY STUDY OF INFORMATION AND COMMUNICATION TECHNOLOGIES

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ABSTRACT

Organizations are consumers of human capital through technological means. Flexibility in work hours and locations can assist employee productivity; however, it can also foster a blurred distinction between work time and personal time (Robbins & Judge, 2007). Employees are given the tools to stay connected outside of a straightforward 40 hour work week in the name of enhanced productivity and/or flexibility with regard to their work arrangements. Organizational policies regarding ICTs have been limited to proscriptive measures (e.g. prohibiting installation of specific applications or downloads) as opposed to providing managerial parameters in the form of formal or informal policies.

The purpose of this research was to provide a view of the multifaceted problem of managing technology (specifically ICTs) while balancing the needs of the humans within organizations who utilize those technologies. This dissertation investigated whether or not organizations have policies concerning employees' constant connectivity to work during non-working hours through ICTs. This research also examined whether HR professionals, who would typically be involved in the formation of organizational policy, anticipated the formation and adoption of policies regarding employees' usage of organizationally-provided/subsidized ICTs during non-working hours. Based upon data collected, a framework for a best-practices policy model was developed.

Keywords: technology management, organization policy, ICT, work/life balance, HRM

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CHAPTER 1

Organizations as Consumers of Human Capital via Technology

Organizations are consumers of human capital through technological means. Human capital is defined by Swanson and Holton (2009) as "the productive capabilities of human beings that are acquired at some cost and that command a price in the labor market because they are useful in producing goods and services" (p. 87). Swanson and Holton's definition is similar to Gilbert, who focuses upon the potential development of human capital based upon performance engineering. Gilbert (1996) states that the increase of human capital is balanced upon "the product of time and opportunity" and that "opportunities without time to pursue them mean nothing" (p. 11).

Gilbert (1996) links the concepts of human potential, human capital and technology by pointing to performance engineering as being a systematic and logical process of converting human potential into human capital through "an orderly and sensible set of procedures" which is achieved through "any technology" (p. 12). Technology is defined by Khalil (2000) as "All the knowledge, products, processes, tools, methods, and systems employed in the creation of goods or in providing services" (p. 1). Burgelman, Christensen and Wheelwright (2004) add to Khalil's definition by stating that "technologies are usually the outcome of development activities to put inventions and

discoveries to practical use" (p. 2). Burgelman et al., point out that the criteria for success of technical development efforts is "Can it do the job profitably?" (p. 3).

Technology has facilitated organizations' consumption of human capital in a variety of ways, transforming the workplace from one that is time and location bound to one that is boundaryless. Flexibility in work hours and locations can assist employee productivity; however, it can also foster a blurred distinction between work time and personal time (Robbins & Judge, 2007). Using the example of global organizations, business interactions never cease and working hours could develop into a proposition of 24 hours a day, 7 days a week, unless otherwise regulated by the employee or the employer. Collaboration with colleagues and/or customers in other time zones necessitates a manipulation of the traditional conceptualization of work hours with technology providing opportunities for such collaboration, regardless of time or location.

Organizations are "consciously coordinated social unit(s), composed of two or more people, that function(s) on a relatively continuous basis to achieve a common goal, or set of goals" (Robbins & Judge, 2007, p. 4). Organizations, by design, maximize the use of their resources as consumers with human capital representing one of the organization's largest capital expenditures. Contrastingly, by design, the individuals who comprise human capital strive to maximize earnings and attain job satisfaction while engaging in career enriching activities (Swanson & Holton, 2009). When considering the overall health of an organization's climate and culture, balance must exist between the goals of organizations and the goals of human capital. Therefore, work must be satisfying to workers and must be productive in terms of measurable achievements within the context of desired behaviors (Gilbert, 1996; Weisbord, 2004).

Background

The workplace has evolved from a discrete time-bound and defined place to a timeless, wall-less and sometimes virtual existence. Within the context of technology, Volti (2009) posits that "When it comes to the consumption of goods and services, it is likely that high levels of consumption do not diminish the desire for still higher levels of consumption; [and therefore the] appetite may grow with eating" (p. 173). The marriage of technology and the workplace has been one of necessity and progress, bringing with it a variety of intended and unintended consequences. As Volti (2009) points out, "The effects of technological change are complex, and it is easy to fix upon one particular result and ignore others" (p. 172) depending upon perspective.

Technological Change and Boundaryless Work in Organizations

The changing nature of technology and work has been a byproduct of - and sometimes an antecedent to - social (and organizational) developments. Long past are the days when goods were painstakingly and manually produced in small, insular villages by artisans and craftsmen such as blacksmiths and wheelwrights. However, the technologies that facilitated the work of those such as blacksmiths and wheelwrights also facilitated societal change and, some would argue, progress of civilization as a whole.

Fast-forwarding past an agrarian society, the industrial revolutions, through the information age to the age of digital transformation, organizations have become more sophisticated with ever-increasing technological needs. With increased technological requirements, organizations may also hold expanded expectations of how human capital is leveraged. Presently, it is not uncommon for organizations to provide employees with an array of information and communication technologies (ICTs) such as laptops, tablets,

smart phones, and/or digital pagers which facilitate access to work-related items during non-working hours in the name of productivity.

Trist (1981) stated “Information technologies, especially those concerned with the microprocessor and telecommunication, give immense scope for solving many current problems – if the right value choices can be made” (p. 50). As organizations have grown their desire for higher levels of consumption (Volti, 2009), new and additional demands have been placed upon employees who represent human capital inputs into the organization as an open system. Employees are given tools to stay connected outside of a straightforward 40 hour work week in the name of enhanced productivity and/or flexibility in work arrangements. Many employees have pagers, BlackBerries, iPhones, and tablets with wireless connectivity that can deliver the latest report figures and alert them to new work developments, regardless of the importance of the development.

The literature seems to indicate that the changing demands of organizations as consumers of human capital have allowed for decay of work boundaries; not only in space but in time. In order to benefit from understanding the implications of organizations and their role in socio-technical systems, it is necessary to examine the events in history that changed the meaning of work (Weisbord, 2004).

The theoretical underpinnings of this study included an interdisciplinary review of technological, social and organizational changes from a historical perspective and included an examination of potential implications for boundaries between work and personal life.

Statement of the Problem

Despite the many researches on work-life balance, there have been only theoretical and social analyses regarding the role of organizations in utilizing technology to control how and when employees make use of ICTs during non-working hours. Additionally, organizational policies regarding ICTs have been limited to proscriptive measures (e.g. prohibiting installation of specific applications or downloads) as opposed to providing managerial parameters in the form of formal or informal policies. The dearth of literature regarding usage of ICTs during non-working hours seems to suggest that organizations have not addressed the potential drain of human capital resources from a policy perspective.

Statement of the Purpose

The purpose of this research was to provide a view of the multifaceted problem of managing technology (specifically ICTs) while balancing the needs of the humans within organizations who utilize those technologies. The purpose of this research was also to examine the evolution of the boundaryless workplace as an important component of the complex managerial and leadership issues regarding organizations' consumption of human capital via technology.

The focus of this research was to investigate whether or not organizations have policies concerning employees' constant connectivity to work during non-working hours through ICTs. This research also examined whether human resource (HR) professionals, who would typically be involved in the formation of organizational policy, anticipated the formation and adoption of policies regarding employees' work-related usage of ICTs

during non-working hours. Based upon data collected, a framework for a best-practices policy model was developed.

Research Questions

The research questions answered in this study included:

1. Do organizations have formal policies that limit employees' work-related usage of ICTs during non-working hours?
2. Do organizations have informal policies (i.e. management practices) that limit employees' work-related usage of ICTs during non-working hours?
3. Do organizations have formal policies demonstrating organizational commitment to the importance of employees taking time away from work or do they leave this decision to employees?
4. Do organizations have informal policies (e.g. management practices) demonstrating organizational commitment to the importance of employees taking time away from work or do they leave this decision to employees?
5. Absent existing formal and informal policies regarding employees' non-working hours' usage of organizationally-provided ICTs, what is the likelihood they will adopt such a policy within 1-3 years?
6. If organizations are likely to adopt formal or informal policies regarding employees' usage of organizationally-provided ICTs during non-working hours, what are the reasons for the development and implementation of such a policy?
7. Based upon data collected from this study and the information reflected in the literature, what elements should be included in an organizational policy regarding employees' non-working hours' usage of organizationally-provided ICTs?

Significance of the Study

This study was significant because it contributed to the literature regarding organizations as consumers of human capital through technology. The development and adoption of organizational technology policy was particularly salient in the temporal view as organizations continually seek to prepare for, and perhaps minimize, the disruptive effects of technological change (Burgelman, Christensen & Wheelwright, 2004). Additionally, due to a downturn in economic conditions in 2008-2009, many organizations have had to downsize, restructure and "do more with less" (Anthony, 2009; Cohen, 2010). Therefore, it was crucial to understand how organizations would address the potentially growing consequences of technology (e.g. stress, eroded social relationships and burnout) on employees within the context of the boundaryless workplace.

In a survey conducted in July, 2010, 78% of the survey respondents from the sample obtained by the Society for Human Resource Management (SHRM) stated they use scholarly research such as journal articles, abstracts and presentations in human resource management (HRM) and/or business to help develop HR solutions for their organization (The Society for Human Resource Management, 2010). Of the reasons respondents did not use scholarly research in developing HR solutions for their organization, 49% stated they did not recognize scholarly research would be useful in developing HR solutions for their organization, 23% stated the research is difficult to read and interpret, and 10% stated they found scholarly research difficult to apply in the workplace (SHRM, 2010). The present study was useful to HRM practitioners as it provided practical insight regarding the need for an ICT policy in connection with non-working hours' usage of ICTs by employees. The present study also provided a

framework for development of policies based upon the best practices model developed as a result of this research.

Statement of Assumptions of the Study

The researcher made the following assumptions:

1. Respondents possessed accurate information requested within the survey.
2. Respondents answered survey questions honestly and to the best of their knowledge.

Statement of Limitations and Delimitations of the Study

1. This study focused upon respondents from organizations that provide (in whole or in part) or who are aware of the use of personal ICTs by employees for work purposes.
2. The respondents of the study were drawn from the membership of the Society for Human Resource Management (SHRM) and included those who were certified as Senior Professional in Human Resources (SPHR) and/or Global Professional in Human Resources (GPHR). Respondents also included those who were non-certified HRM professionals. HRM professionals would typically be involved in various types of policy development and implementation within organizations.

Definition of Terms of the Study

- ICTs – Information and Communication Technologies. ICTs (or ICT) refer to communication technologies that are "primarily wireless such as the Internet, wireless networks, cell phones, and other communication mediums" (TechTerms, n.d.). For purposes of this study, ICTs are defined as smart phones (e.g., Blackberries, iPhones, Androids), pagers and tablets (e.g., Blackberry Playbook, iPad2, Archos).
- Boundaryless workplace – Work environment that extends beyond a physical location outside of determinate days and times of operation (Robbins & Judge, 2007).

CHAPTER 2

Review of Literature

Model for Literature Review

The topic of this research demanded a review of the literature from several disciplines. A literature review model was developed from a cross-disciplinary perspective. The goals of the literature review model included:

1. To inform the research design in order that scope would not exceed necessary boundaries.
2. To ensure relevant literature for the study was incorporated and synthesized.
3. To provide guidance in analysis and discussion of the findings.

Figure 1 displays the relevant literature components which were within the context of the purpose of this research. The model depicts the relationships of components as opposed to a linear process format that would determine the order in which topics should be addressed.

Figure 1. Literature Review Model: ICT Policy Study

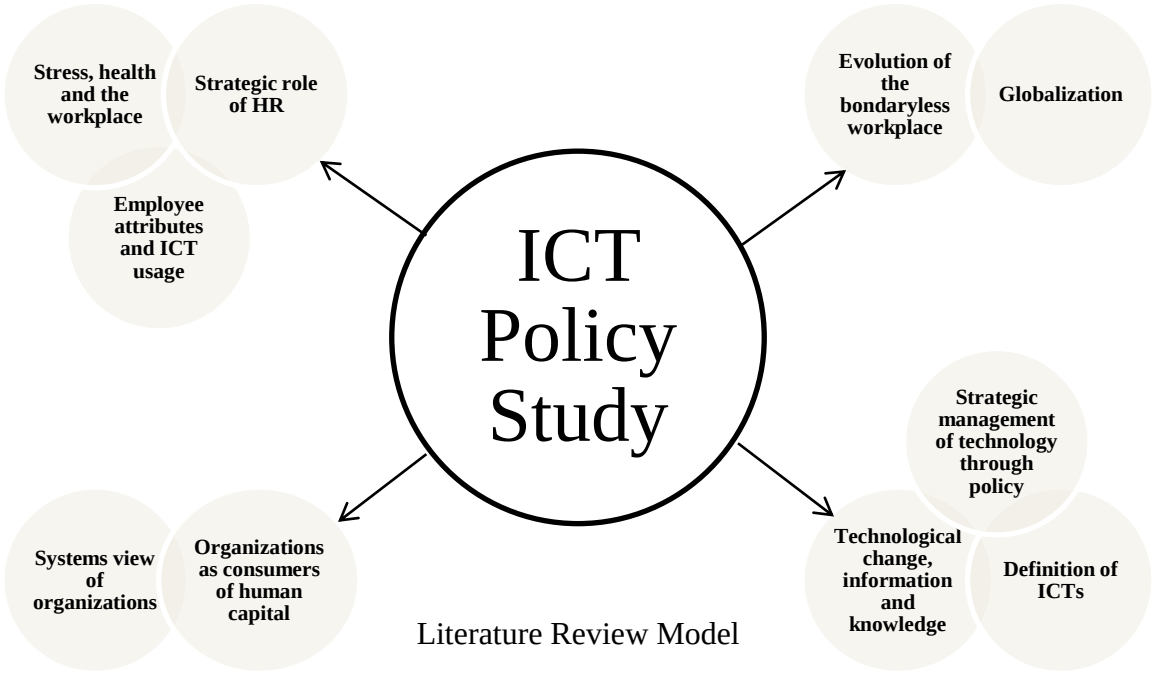


Figure 1. The components of the literature review relate to the central topic which is organizational policies regarding ICTs. Figure 1 also shows the relationship among the individual components of the literature review. The display of the components does not have implications for order of review and is relational only.

Evolution of the Boundaryless Workplace

The Internet began as a network developed by the U.S. Defense Advanced Research Projects Agency (DARPA) in the early 1970s (McNeil, 2009). In the 1980s, the DARPA network broadened to include universities (specifically research institutions) as well to provide for general Internet usage (McNeil, 2009; Priest, 2010). As graphics capabilities and the World Wide Web framework developed, the Internet became a tool with burgeoning potential for businesses such as newspaper and magazine publishers, who presented electronic versions of their publications.

Email had its early beginnings in the ARPANET computer network after its establishment in 1969 (McNeil, 2009; Priest, 2010). Along with other supporting developments, email grew to become one of the most ubiquitous communication tools associated with the explosion of computing.

Despite having submitted a proposal for cellular service to the Federal Communications Commission (FCC) in 1971, it was not until 1982 after years of hearings that the FCC approved the proposal (Priest, 2010). In 1973, Robert Metrical invented the Ethernet which facilitated data transmission via packets (Priest, 2010). In 1974, David Al developed a micro-computer consisting of a video display, keyboard and central processing unit (CPU). Al's company, DEC, showed no interest; positing there would be no market for such a product (Priest, 2010). In 1976, IBM developed the ink-jet printer and the 5100, which was the company's first microcomputer with 16k of memory (McNeil, 2009; Priest, 2010). Michael Sprayer created "Electric Pencil" which represented the first word processing system for personal computers (PCs) (Priest, 2010). The Apple I PC, designed by Stephen Wozniak, was launched during this time and was based upon Motorola's 6052 processor.

During the latter portion of the 1970s, Steve Jobs and Stephen Wozniak introduced the Apple II which was the first PC available as a single, assembled unit (Priest, 2010). The Apple II became the best-selling PC until later IBM innovations. In 1977, Paul Allen and Bill Gates founded Microsoft. In the persistent search for a wider consumer demand for the PC, Tandy Corporation and Commodore Business Machines introduced PCs that had built-in monitors and tape cassettes for data and program storage, as opposed to previous models that relied upon external components (Priest, 2010).

Transfer Control Protocol/Internet Protocol (TCP/IP) was adopted for communication between computer networks. DEC introduced the 32-bit computer which utilized virtual address extensions, allowing it to run larger programs than physical memory size (McNeil, 2009; Priest, 2010). The Word Star word processing program, developed by John Robbins Barnaby, was introduced and would later become the most widely used word processing package of the early 1980s (Priest, 2010).

Also in the late 1970s, the first commercial network cellular telephones appeared in Tokyo, Japan (McNeil, 2009). In the U.S., Bell Labs followed by testing a cellular system through 2000 users in Chicago, IL (Priest, 2010). Hayes' modem allowed computers to connect directly to phone lines. Daniel Bricklin and Robert Frankston developed VisiCalc, the first spreadsheet program for microcomputers which allowed users to develop business applications without learning programming language (McNeil, 2009; Priest, 2010). The Apple II Plus was introduced, incorporating BASIC (Beginner's All-purpose Symbolic Instruction Code) programming language built into the read-only memory (ROM) (Priest, 2010).

The typewriter underwent a considerable transformation in the late 1970s and early 1980s, incorporating electronic and programmable features such as small word processing applications which linked to external printers (McNeil, 2009; Priest, 2010). In 1990, IBM sold their typewriter division to Lexmark due to steadily falling sales (McNeil, 2009).

In 1980, the current international facsimile standard (Group 3) was established, allowing fax messages to be transmitted at about one page per minute or faster (Priest, 2010). dBase II was developed by Wayne Ratliff, and included a programming language

derived from Vulcan I. dBase later became the principal electronic filing system for PCs during the 1980s (Priest, 2010).

Answering the increasing consumer need for portability as it related to computing, Osborne built the first portable computer which included disk drives, video monitor and processor unit in a single box (McNeil, 2009). The first IBM-compatible or PC-compatible computers appeared via Columbia Data Products with Compaq following closely with their introduction of a PC clone that was portable (Priest, 2010).

In 1983, Radio Shack brought the Model 100 to market, which was the first version of the laptop, running for several hours on four AA batteries (Priest, 2010). Domain name suffixes (.org, .edu, .gov) for the Internet originated in 1984 by Paul Mockapetris of the University of Southern California (McNeil, 2009). Graphics capabilities continued to develop as Bill Atkinson of Apple developed MacPaint, a revolutionary graphics package that enabled drawings of pictures to become visible on a computer monitor (Priest, 2010). Apple introduced the Macintosh to the consumer market which was the first graphics-based microcomputer (Priest, 2010).

In 1985, Microsoft developed its revolutionary Windows program for the IBM PC (Priest, 2010). Work on the laptop computer continued as Toshiba introduced its version of what was considered to be a true laptop computer (Priest, 2010). Software developments accelerated with Paul Brainard's PageMaker for desktop publishing (Priest, 2010). Andy Wigginton, Ed Ruder and Don Breuner developed MacWrite for word processing (Priest, 2010).

Concerns about computer viruses were realized in 1988 as Robert T. Morris, Jr., a graduate student at Cornell, planted a virus in the Internet computer network which

spread globally to 60,000+ computers (McNeil, 2009; Priest, 2010). In 1989, a paper entitled “Information Management: A Proposal” was presented at CERN and became the theoretical basis for links used on the Internet and the World Wide Web (Priest, 2010).

During the 1990s, icons became the main communication device of choice for many computer applications (Priest, 2010). Voice recognition systems were more widely utilized and the keyboard, an innovation of the 1960s, was gradually replaced and even supplanted in some cases (Priest, 2010). Improved screen recognition provided for handwriting to be converted into digital output (Priest, 2010).

In 1990, color fax transmission machines became commercially available along with IBM's introduction of the RS/6000 family of workstations (McNeil, 2009; Priest, 2010). Tim Berners-Lee wrote the program that created the World Wide Web (WWW) (Priest, 2010). In 1991, Berners-Lee's program for the WWW was installed on the Internet (Priest, 2010).

In the early 1990s, Skyphone expanded telephone communications on airliners which could be operational anywhere on the globe (McNeil, 2009). Skyphone's service was limited to outgoing calls and existing telecommunications satellites were used to relay signals (Priest, 2010). Text messaging, or “texting”, using the short message system (SMS) began in 1992. SMS later facilitated the multimedia messaging service (MMS) format, which can include video and other types of media. Texting via mobile phones has become an indispensable means of communication for individuals and organizations (McNeil, 2009; Priest, 2010). Instant messaging usage, which predated the Internet, began to accelerate during this time with Internet-based clients such as AOL Instant Messaging and PowWow (Priest, 2010).

Internet progress continued as the first web browser, Mosaic, was introduced and the first websites made their debut on the WWW (Priest, 2010). Apple's Newton was the first personal digital assistant (PDA) and was not terribly successful in the consumer market (Priest, 2010).

In 1994, Ward Cunningham began the development of the first wiki software, WikiWikiWeb, which was described as a basic database allowing users to create and edit any number of integrated web pages via a web browser using WYSIWYG (what you see is what you get) language (McNeil, 2009; Priest, 2010). Wikis went on to become tools for a variety of document and knowledge management efforts that served individual and organizational purposes (McNeil, 2009; Priest, 2010). Presently wikis are utilized for government, academic, organizational and many types of civic and recreational purposes (Priest, 2010).

The term "weblog" was coined in 1997 by Jorn Barger and was later shortened to "blog" which could be used as either a noun or a verb (McNeil, 2009; Priest, 2010). Various types of blogs were created that contained videos, pictures and text. Blogs developed into a useful tool for individuals and organizations and supplanted or appended many types of newsletters.

Cellular phone networks began springing up all over the world as the manufacture of components and massive computing power became more available (Priest, 2010). In less-developed parts of the word, cellular phone communications systems were more reliable than indigenous communications structures. During this time, copper and coaxial cable was replaced by optical cable, providing faster, more reliable data transfer (McNeil, 2009; Priest, 2010).

In addition to the Internet and the World Wide Web emergence, changes in the use of the computer affected homes as the PC became a semi-essential home appliance with newer, faster machines becoming critical to organizational and home office work (McNeil, 2009; Priest, 2010). Personal use of PCs and laptops increased and smaller, lighter laptops became preferable to users, even when workers come to the same work location each day (Priest, 2010).

Fears of computer failure and data loss surrounded the transition from 1999 to 2000 (Y2K). Organizations and individuals faced the possibilities of multiple computerized system failures due to storage space concerns and legacy programming issues (McNeil, 2009). Worldwide, a plethora of organizational resources were dedicated to planning for and executing "on call" contingencies related the changeover in the calendar. While extreme theories pronounced dire consequences, Y2K was largely uneventful (McNeil, 2009; Priest, 2010).

LinkedIn, a business-oriented social networking site utilizes a gated-networking approach, was launched in 2003. LinkedIn allows users to maintain a list of business contacts called "Connections" (Priest, 2010). Incorporating features similar to Yahoo! Answers, LinkedIn offers a feature called LinkedIn Answers, which allows users to initiate discussions and ask questions within their respective groups and communities (Priest, 2010). LinkedIn reports more than 75 million users worldwide and reports growth of 1 user per second (Priest, 2010). Similar social networking sites include Spoke, Viadeo, and XING. Professional social networking sites have allowed employers and job seekers all over the world to build a broader spectrum of potential professional

relationships. Professional social networking has also changed the way prospective employers and employees network (Priest, 2010).

In 2004, Facebook was launched by Mark Zuckerberg and his college roommates, providing a social networking website in which more than 500,000 million users (as of July, 2010) join networks organized by individuals, groups, workplaces, schools or colleges (McNeil, 2009). A January 2009 Compete.com study ranked Facebook as the most utilized social network worldwide, closely followed by MySpace (McNeil, 2009). Facebook has been met with controversy surrounding privacy concerns and has been blocked in countries such as Pakistan, Syria, Vietnam, Iran, and the People's Republic of China (McNeil, 2009). Additionally, many organizations have blocked access to Facebook and similar social networking sites due to concerns about their employees wasting too much time playing games such as Farmville and Mafia Wars during working hours (McNeil, 2009; Priest, 2010).

In 2005, YouTube was beta tested. By mid-2006 the company reported there were more than 65,000 new videos were being uploaded every day (Priest, 2010). YouTube contains a wide variety of user-generated video blogs, movie clips, TV clips, music videos and amateur content and was purchased by Google, Inc. for $1.65M in 2006 (Priest, 2010).

Box.net was founded in 2005 by Aaron Levie and Dylan Smith and provided a Cloud Content Management solution for individual and corporate users, allowing them to share content and collaborate. Competitors of Box.net include Sharepoint, Dropbox, Documentum and Intralinks (McNeil, 2009; Priest, 2010). Similarly, SlideShare was launched in 2006 and allowed users to upload PowerPoint presentations, .pdf documents

or OpenOffice presentations (McNeil, 2009; Priest, 2010). Originally designed for organizational use, SlideShare now hosts presentations of all types and logs roughly 12 million unique visitors per month (Priest, 2010).

Twitter, a social networking and microblogging service, was created in 2006 by Jack Dorsey and is a free service that allows users to "Tweet" up to 140 characters displayed on the author's profile page (Priest, 2010). Twitter, described as the "SMS of the Internet" (Priest, 2010), is utilized by organizations and individuals. Tweets can be sent from devices other than a laptop or PC (e.g. mobile phones) and boasts more than 100 million users since inception (Priest, 2010).

In 2007, creators of Yammer (an enterprise social networking tool) adapted Twitter's idea of information feeds and set out to apply social networking to improve workplace communication and collaboration (Priest, 2010). Yammer was launched to the public during the TechCrunch50 Conference in 2008 and in 2009 reported more than 50,000 networks (Priest, 2010).

Subsequent to the economic downturn from 2008 forward, cost-cutting measures including downsizing, right-sizing and business elimination created corporate cultures that demand "doing more with less". In an effort to find job security and retain livelihoods, employees became accustomed to having an even more tenacious need to be informed up-to-the minute via handheld devices and wireless connectivity, regardless of other activities in their lives and sometimes at the cost of personal relationships and social interaction.

Summarily, with the explosion of technological development relating to ICTs over the past few decades, individuals and organizations had at their disposal an array of

tools that allowed them to work more efficiently and from any location in the world. Business could be conducted anywhere at any time, and the concept of the boundaryless workplace became the new way to reach beyond space and time to foster unbounded productivity.

Technological Change, Information and Knowledge

Technological change has altered the way the world is viewed with videos on demand of favorite programs, information available at the click of a mouse or slide of a finger, music instantly streaming into desktops, laptops and handheld devices, instant messaging both for personal and organizational use, and social networking sites to suit every interest imaginable. Technological change has also brought about a clear expansion of the amount and type of information that can be sorted and grouped into knowledge categories.

Sir Francis Bacon wrote in 1597 that "knowledge is power" (Volti, 2009, p. 310). The intersection of knowledge, information and technology has upheld Bacon's claim and represents a profound and foretelling example of an appreciation of the possibilities brought forth by technological advances (Volti, 2009). Theoretical knowledge of science and technology has become a basis for economic power and social policy. Economic and social power has become increasingly linked with development of high technology, or technology that is considered to be cutting edge (Volti, 2009; Priest, 2010). Technology and computer-aided modeling have evolved to become indispensable tools for planning for the future, with technology forecasting and technology assessments being necessary accoutrements to a progressive business strategy (Burgelman, Christensen & Wheelwright, 2004). Information technology has augmented functions such as decision

making within organizations, however, the human capital component of the organizational model has not become extinct by any means (McNeil, 2009; Priest, 2010).

Knowledge has become one of the most valuable commodities organizations and individuals can hold (Nonaka, 1991). Knowledge, by definition, is a work product generated by individuals who work for organizations, and, if not harnessed and easily recalled for later use, knowledge as a commodity becomes ineffectual (Myers, 1996). Myers stated that "Corporate success in today's economy comes from being able to acquire, codify, and transfer knowledge more effectively and with greater speed than the competition" (p. 1).

Senge (1990) added another organizational dynamic by asserting that continuous learning and improvement would hallmark the success of organizations that "discover how to tap people's commitment and capacity to learn at *all* levels of the organization" (p. 4). While computers and software programs execute much of the work that, prior to the information age, was done manually by several people, it is clear that automating work processes will not necessarily replace human capital. Rather, work has changed and, as a result, demands different knowledge, skills, and attitudes requiring people to work with technology rather than despite it (Priest, 2010).

The innovative and entrepreneurial spirit exhibited by inventors such as Thomas Alva Edison, Alexander Graham Bell, and Henry Ford, paved the way for technology gurus like Steve Jobs of Apple and Bill Gates of Microsoft (McNeil, 2009). Despite the dot.com bust in the late 1990s, which resulted in concerns regarding overvalued stocks, technological progress continued to reshape the way in which society accomplished work as well as the ways in which progress and growth would be measured (McNeil, 2009;

Priest, 2010).

Definition of ICTs

Subsequent to rapid information and communication technology development, the scope of the definition of ICTs has been utilized within diverse contexts including economic development, education, IT, business and personal usage. A review of academic literature, trade publications and general information was necessary to establish a working definition for purposes of this research.

ICTs and economic development. In developed countries, technology represents wealth. Wireless technologies are ubiquitous in the United States and several other locations around the globe. However, in developing countries there is a disparity in coverage as it relates to mobile phone signals (e.g. sub-Saharan Africa) the obstacles to ICT development and utilization stem from economic development problems. The International Telecommunication Union (2007) stated that approximately 45 percent of Sub-Saharan African villages were covered by a mobile signal in 2006" (p. 2) despite the lack of universal access. The barriers to wide adoption of mobile and cellular phones include lack of electricity, lack of income to spend on ICTs, difficult terrain, and lack of transportation (International Telecommunication Union [ITU], 2007). In contrast to the sub-Saharan African region is India, where access to cell phones is far greater than access to toilets (United Nations University, 2010).

The ITU is a specialized agency of the United Nations whose mission is to connect everyone in the world as a fundamental right to communicate. The ITU currently has a membership of over 192 countries and 700 private-sector entities and academic institutions (ITU, n.d.). The ITU coordinates the world's satellites which provide Internet

connectivity, TV broadcasts, GPS navigation and weather information. The ITU also develops protocols, standards and agreements for global communication and facilitates support communication in the wake of disasters and emergencies.

The development of wireless connectivity, specifically in areas such as the sub-Saharan African region, is essential as ICTs have been shown to be useful in emergency or disaster situations. ICT development has also been presented as tools to assist villagers in accessing e-government services, for which development began in 2005-2006.

The World Health Organization (WHO) has utilized ICT for public health surveillance, which is the "continuous, systematic collection, analysis and interpretation of health-related data for planning, implementation, and evaluation of public health practice" (WHO, 2011). During a disaster, such as an earthquake or tsunami, mobile phones with GPS capability can assist relief workers and emergency responders in gathering information and locating those who need assistance. In 2006, the WHO brought forth the proposal that ICT could potentially be useful in disaster response and recovery (WHO, 2006). Yang, Yang, Lou and Gong (2009) also suggested that cellular phones with GPS capabilities become a standard component of disaster preparedness plans in disaster-prone areas.

ICT has also been utilized as a definition of an economic sector. In 1998, the Organisation for Economic Co-operation and Development (OECD) agreed upon a definition based upon an international standard classification of activities rather than a classification of products. In 2002, the OECD reconvened discussions regarding the definition of ICT and clearly delineated manufacturing from services, removing some peripheral components of the previous definition which included office equipment and

supplies. The resulting definition of the economic sector included electronic displays, various types of cable, instruments for navigating and numerous other types of electronic and wireless connectivity-related devices.

ICTs and education. ICTs are widely used in education in the United States and other countries. In 2007, the International ICT Literacy Panel produced a special report entitled "Digital transformation: A framework for ICT literacy". The Panel was sponsored by the Educational Testing Service (ETS) who defines ICT as a "continuum of skills and abilities" (ETS, 2007, p. 1). The report noted that "ICT is being used increasingly by global industry, international media, and academics to reflect the convergence between computer and communication technologies. Thus ICT can be viewed as a set of activities and technologies that fall into the union of IT and telecommunications" (p. 2).

A number of education-related researches discuss the implementation and effectiveness of ICTs in the classroom, however, the term ICT or ICTs are utilized in a broad manner that could include PCs, desktops, laptops, handheld devices and other types of wireless or cable-connected equipment. The emphasis in educational research appears to be on competency development as can be seen in Jarnieson-Proctor, Watson, Finger, Grimbeek, and Burnett (2007) and Clark, Demont-Heinrich, and Webber (2005).

In their study of adult learning in the digital age, Selwyn, Gorard, and Furlong (2006) lament the broad reference and usage of the term ICT. The authors state that "the umbrella term 'ICT' refers to a range of different, albeit rapidly converging technologies [and] there is a tendency…to use either too narrow a definition of ICT in terms of specific technologies or else too broad a definition…as a homogenous concept" (p. 20).

ICTs and business. Zhang, Aikman and Sun (2008) define ICTs as "technologies used by people and organizations for their information processing and communication purposes" (p. 628). ITIL®, "the most widely accepted approach to IT service management in the world" (ITIL, n.d.), defines ICT as:

> "The application of science to the processing of data according to programmed instructions in order to derive results. In the widest sense, ICT includes all communications, information and related technology. The term Information Technology (IT) is used in a narrower sense, typically excluding telecommunications (voice) technology while including data networks (although almost all networks today are digital), as a reference to the systems that support information processing" (ITIL, n.d.)

Various professional resources such as CIO Magazine and TechTerms.com offer definitions that are equally as broad including:

> "ICT refers to technologies that provide access to information through telecommunications. It is similar to Information Technology (IT), but focuses primarily on communication technologies. This includes the Internet, wireless networks, cell phones, and other communication mediums.
>
> In the past few decades, information and communication technologies have provided society with a vast array of new communication capabilities. For example, people can communicate in real-time with others in different countries using technologies such as instant messaging, voice over IP (VoIP), and video-conferencing. Social networking websites like Facebook allow users from all over the world to remain in contact and communicate on a regular basis.
>
> Modern information and communication technologies have created a "global village," in which people can communicate with others across the world as if they were living next door. For this reason, ICT is often studied in the context of how modern communication technologies affect society" (TechTerms.com, n.d.)

Strategic Management of Technology Through Policy

"Technology is the most fundamental of the core capabilities of a firm…and is the central factor in determining an organization's strategy" (Parker, 2000, p. 57). Porter (1983, 1985) touted technological resources as being pivotal in an organization's ability

to achieve a sustainable competitive advantage and bolstering financial performance. Prahalad and Hamel (1990) deviate from Porter's (1983, 1985) perspective and pronounce core competencies as being the true sources of advantage. Prahalad and Hamel (1990) argue that orienting current strategy to accommodate future technological developments provides the agility businesses require to survive in complex environments. Burgelman and Rosenbloom (1989) choose a different view of technology and maintain (somewhat philosophically) that "technology is a set of knowledge and beliefs and, as such, is a system of logic" (as cited in Parker, 2000, p. 58).

Zairi (1999) views the nexus of strategy and policy as being grounded in "a question of hearts and minds" (p. 74). The author argues that making the best possible strategic choices involves visionary leaders who possess integrity, remaining focused upon ensuring vision is aligned with resources and needs. The "hearts and minds" (Zairi, 1999) argument is particularly compelling when considering the need for organizational adaptive capacity during periods of economic turmoil requiring strategies that value "learning, innovation, and cooperation" (Staber & Sydow, 2002, p. 408). According to Staber and Sydow (2002), strategy and policy support the development of new knowledge by deployment of effective technologies to meet the challenges of complexity, multiplexity and loosely coupled global organizations.

Globalization

Communicating and conducting business in a global market have increased demand for ICTs as many workers can be located across the world where labor is least expensive (Robbins & Judge, 2007). Additionally, globalization has facilitated the ability to move goods cheaper than before across continents where it was previously cost-

prohibitive to do so (Robbins & Judge, 2007; Swanson & Holton, 2009). Global organizations are constantly weighing the costs and benefits of outsourcing and offshoring against their standards for quality, ensuring subjective alignment to the organization's strategic goals (Swanson & Holton, 2009).

During the information age, banks began to operate world-wide with similar-looking ATMs in other countries and travel became more accessible (McNeil, 2009; Priest, 2010). Computerization provided endless possibilities for the expansion of organizational activities (Priest, 2010). Science and technology were changed forever, making use of faster data-acquisition, collection and processing (Priest, 2010). The Human Genome Project is a prime example of technology-facilitated growth of scientific research (McNeil, 2009).

In post-industrial society, the types of work tools necessary shifted from tools needed for the manufacture of goods to skills needed for the provision of services (Weisbord, 2004). In the early 1960s, Daniel Bell described post-industrial society as one in which wealth would be generated by services instead of the production of goods. Bell's prediction and the changes that came to fruition, represented a radical shift not only in business but also in the way everyday life proceeded (Weisbord, 2004).

Presently, U.S. Department of Labor statistics report that the majority of the United States' labor force is engaged in the supply of services rather than manufacturing and food production (Swanson & Holton, 2009). The U.S. has steadily moved from a society of factory workers and industrial employees to a field of service and clerical workers who use computers to perform everyday tasks (Swanson & Holton, 2009). Today's work culture requires service professionals, including those with technical

qualifications (e.g. science and engineering), but also requires an expanded range of applied technical skills to provide services to other professionals on an intra and inter-organizational basis (McNeil, 2009).

Systems View of Organizations

In the mid-1800s, the size and structure of organizations in the United States shifted from small organizations that were able to be governed by *ad hoc* managerial practices to large, organizations that functioned regionally and nationally (Yates, 1989). As the size and structure of organizations shifted, the types of essential managerial methods also shifted and in order to remain strategically viable, organizations adopted new communication methods facilitated by technology.

Organizational models evolved to departmentalized and decentralized, multiunit corporations that required systematic management (Yates, 1989; Weisbord, 2004). Systematic management strategies "promoted rational and impersonal systems in preference to personal and idiosyncratic leadership for maintaining efficiency" (Yates, 1989, p. 1) through control. Control through systematic management, however, "contributed to morale problems among workers and managers" and efforts to "repersonalize certain aspects of work life…arose to supplement systematic management" (p. 1).

Barnard's systems approach to nurturing organizations (Gabor & Mahoney, 2010) and Selznik's acknowledgement of non-rational behavior within organizations (Scott & Davis, 2007) provided critical understanding of the importance organizations adapting to internal shifts (e.g., changing needs and interests of employees) as well as external shifts in an increasingly competitive environment. According to Barnard and Selznik,

organizations as adaptive systems represented not only technical systems but also political and social systems that fostered norms, values and functions unique to those organizations. Organizational norms, values and functions create stability from within, allowing the organization to respond to external challenges with an ethical line of sight to the multi-faced and dynamic roles organizations play.

The development of modern organization theory included rational, natural, mechanistic and organic organizations in response to rapidly changing innovation and business expansion (Scott & Davis, 2007). Innovation facilitated different structures and models of organizations where the issue of tradeoffs, such as cost leadership versus differentiation, became key factors in realizing returns on investments. Boulding (1957) emphasized moral leadership in conjunction with organizations as open systems. Kahn (1974) exposed a "traditional dichotomy between organizational process and structure" that called for a "reconceptualization of organizational structure that permits clarification of the key issues in practice and theory of organizational change" (p. 485).

Open systems, versus closed systems, are systems directly affected by external environmental influences; such as innovation, technology, geography and economic conditions (White & Bruton, 2007). Scott & Davis (2007) describe organizations as "systems of independent activities linking shifting coalitions of participants; the systems are embedded in -- dependent on continuing exchanges with and constituted by -- the environments in which they operate" (p. 25). Open systems use resources as inputs while proactively responding to internal and external challenges of competitiveness by monitoring strengths, weaknesses, opportunities and threats (White & Bruton, 2007). The

manner in which the collective goals of the organization as a system are achieved is through its people, not only as depersonalized inputs but as assets.

There are a significant number of models depicting variations on the theme of organizations as open systems, however, White and Bruton's (2007) "Systems view of organizations" (Figure 2) meshes particularly well with the discipline of technology and innovation management (p. 16). Inputs include human capital, physical, financial and information resources. At the transformation process phase, the model reflects management input, operations, production, and integration of ideas and actions. Outputs of the organizational environment are manifested in the form of products, services and lessons learned. The continuous feedback loops between inputs, the transformation process and outputs is designed to inform practice. Gathering and interpreting continuous feedback can be an overwhelming proposition, particularly in rapidly changing competitive environments. White and Bruton (2007) suggest cross-disciplinary approaches to regular monitoring and evaluation of the health of systemic inputs which specifically pertain to human capital. Based upon the outcomes of monitoring and evaluation, the authors assert the tools of management should then be adapted.

Figure 2. Organizations as Open Systems

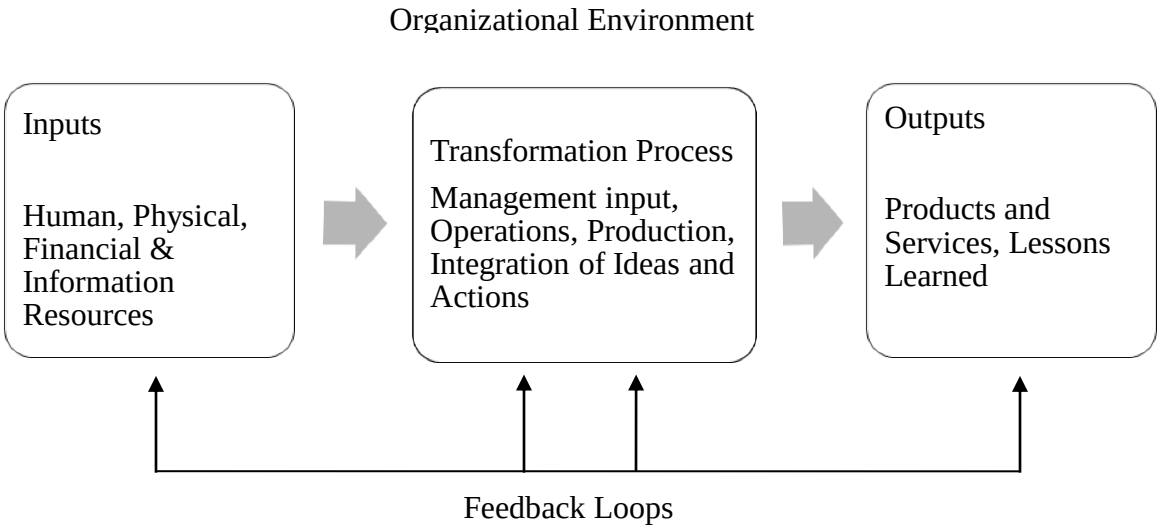


Figure 2. The organization as an open system requires inputs in the form of human, physical, financial and information resources. Inputs provide impetus through the transformation process which leverages management input, operations, production, and integration of ideas and actions. Outputs include products, services and lessons learned. Feedback loops are continuous throughout the systemic environment and provide strategic opportunities for growth. (White & Bruton, 2007, p. 16).

Mintzberg (1994) argued that the process of strategic planning went far beyond the strategy-making process to include the human capital inputs found in those who carried out the role of planning. Strategic planning, as asserted by Mintzberg (1994), is oxymoronic in that strategy itself cannot be planned due to the fact that the act of planning revolves around analysis and strategy based upon synthesis of conditions, including the external environment. Somewhat iconoclastically, Mintzberg (1994) asserted that the process of strategic planning can erode commitment, have a chilling

effect upon necessary change and promote an environment in which politics and narrowed vision serve to weaken strategic thinking rather than champion it.

As organizations developed core competencies in response to increasing demands to remain competitive, they also developed the dimensions of their "technical core" and appropriate peripheral components (Scott & Davis, 2007). The technical aspect of organizations involved focusing upon material-resource environments (e.g. manufacturing environments) that leveraged institutional norms and cultures. Business operations supported the strategic principles of the organization through the planning process which included R&D, customer relations and successful delivery of products. Business operations were supported by shared confidence in managerial capabilities through shared vision, mission and strategy (Scott & Davis, 2007). Scott and Davis' (2007) model of a high-tech global corporation holds out organizational routines, cultures and social structures as the carriers of knowledge, structure and consistency.

Incorporating technology, innovation and competitiveness with organizational systems might seem to be a natural inclination. However, behavioral factors of the human component displayed in models such as Scott and Davis' (2007) can induce friction between people, processes and tools; seemingly necessitating institutional controls. Further, the ideal of remaining humanistic (Spitzeck, 2011) in management style during periods of instability and crisis can easily be challenged by scarcity of resources, work/life balance issues, job security and other interpersonal dynamics. Ultimately, the literature seems to suggest that potential difficulties in managing human capital as an input to organizations as open systems cannot be set aside or ignored.

Alexander (2008) argues that the concept of efficiency should be viewed in a deeper sense than measuring productivity. The author traces the effects of measuring efficiency, which had early applications in measuring the outputs of machines (e.g. in manufacturing and production environments), and states that the worker, within the context of a globalized, post-industrial environment, can be categorized as disposable. Alexander (2008) points out that control through technology for the sake of efficiency, standardization and quality, can instill a forced sense of cooperation in a transparent workplace. In this way, workers "turn on a sense of invisibility" facilitated by a "fear of being caught unaware and unprepared and a fear of having one's errors exposed" (p. 159). The effect, Alexander argues, is "a powerful inducement to conformity" to realize "shared goals and teamwork" (2008, p. 159).

The literature seems to suggest that shared goals and teamwork in the name of strategy may not always produce an entirely negative effect and can provide cohesiveness and momentum. The variability, as suggested by the literature, is found in the health of the organizational culture. Regardless, there are clear implications reflected in the literature that suggest organizations cannot indefinitely ignore human factors involved in technology management without depletion or erosion of the quality of human capital as an input.

Visualizing organizations as open systems can bring about trends of depersonalization as workers (inputs, human capital) become commodities by which the organization cultivates, quantifies and expands wealth (Spitzeck, 2011). The traditional business case for responsible management suggests that "Right decisions are those which are profitable. Wrong decisions are costly. Issues with no impact on profitability do not

need to be addressed. The ultimate decision-making criterion is profitability" (Spitzeck, 2011, p. 52). There are practical and hidden limitations to the theoretical business case for responsible management as observed in Spitzeck (2011). The author argues that "profit-oriented decision-making systematically excludes morally relevant stakeholders and causes irresponsible behaviour in relation to moral issues which come at a cost" (p. 53). Spitzeck's argument flies directly in the face of traditional economic models of organizations as existing solely to make a profit, illustrating that depending upon the theoretical framework for organization design, different structures bring about different effects upon organizational behavior. Spitzeck (2011) further posits that organizations as systems must be directly responsive to employees as both stakeholders and inputs; and, therefore, should act ethically in the way the organization treats employees on both levels.

For purposes of this research, an in-depth analysis of systems theory as it relates to organizations was beyond reach. However, understanding that organizations can be hierarchical and/or loosely coupled systems (Weick, 1974) facilitates realization that organizations can be adaptive in nature while giving due consideration to collective goals, as well as personal preferences and objectives. Weick (1974) conceptualized systems design theory to be rooted in a focus upon the process of organizing rather than the structure of an entity as all-encompassing. Weick's (1974) argument is that it is necessary to move beyond observing an organization as a synthetically created structure to see "there are events, linked together, that transpire within concrete walls and these sequences, their pathways, their timing [are] the forms we erroneously make into substances when we talk about an organization (p. 358).

Weick (1974) posits that the organization is manifested through interpretation of individual actions while balancing the need for stability (i.e. routine actions) against the need for flexibility (i.e. equivocality in the system). Weick has written extensively about the failure of imagination in organizing (2005a), as well as other dynamics relevant to the social psychology of organizations. The author has repeatedly theorized that individuals cope with their environments through rules that provide standardized responses to situations and communication-behavior cycles that require interaction and sharing of knowledge (1974). Ambiguity, Weick theorizes, can become routine if environments lack the ability to balance stability and flexibility (2005b). Once ambiguity becomes routine, some elements of interaction between the inputs of a system and the system itself may be overlooked as the view of the whole becomes more prominent.

Weick's theory regarding the adverse effects of ambiguity in organizational systems can also be explained by applying Gestalt principles to management theory such that the whole is far more apparent and, therefore, easier to identify and deal with than the individual parts (Herman & Korenich, 1977), leading to the tendency to overlook the needs and motivations of individuals. The same challenge was corroborated by Alderfer (1977) who stated the goal of organization development was to improve "the quality of life for members of human systems" and to increase "the institutional effectiveness of those systems" (p. 272) while tending to the dynamics of what a quality work life may entail.

Conflict can result when technological solutions challenge the views of humanistic management through the one-dimensional view of human capital as only an input (Spitzeck, 2011). The productivity paradox arising from the combination of human

capital (i.e., workers) and technology remains unresolved due to rapid technological advances that, on their face, are designed to stimulate employee motivation and creativity. Organizations represent a collective effort coordinated by people and could not exist without them. Further, organizations could not indefinitely and sustainably make profits without effectively organizing and managing human capital (i.e. people) to produce goods and services.

The span of viewpoints reflected in the literature seem to suggest that technologies developed to promote productivity carry with them potential applications of control that may, paradoxically, dampen the innovation and creativity necessary for sustainability, strategically competitive organizations. The literature also seems to suggest balance of the dynamics of the inputs (e.g. people, processes, and tools) is required for the health of organizations and the individuals who collectively encompass the organization.

Organizations as Consumers of Human Capital

There are a number of different viewpoints relating to consumption of human capital via technology that can be applied when gauging the various aspects of innovations as they affect the worker. Greenhill and Wilson (2006) explored the Marxist viewpoint from the conceptualization of telework, or telecommuting, as it relates to gender. The authors were particularly interested in telework and the double-burden of women as they endeavored to balance working from home while tending to family life.

From the consumer standpoint, Burke and Fiksenbaum (2009) noted that "employees work more hours per year in the United States, United Kingdom and Japan than in France and Germany" and that "almost all of the studies of workaholism have

been undertaken in Western countries having capitalist ideologies" (p. 362). While the authors speculated there may be a connection between capitalist ideologies and work norms, they also stated "It is not clear that research findings from these studies would generalize to non-Western countries or cultures" (Burke & Fiskenbaum, 2009, p. 364). In non-western cultures, dimensions such as gender might vary considerably within the context of work and its respective functions and/or dysfunctions.

Burke and Fiskenbaum (2006) found that the perceived benefits of telework only served to reinforce the notion that working from home, in some cases, created a situation in which there was no escape from work of any kind and that the physical absence from one's work organization brought "a cost of 'invisibility' from the reward system operated by management" (p. 385). Relatedly, Greenhill and Wilson (2006) argued that such invisibility negatively affects employees' sense of belonging and security within the organization such that the meaning of work is limited to largely transactional interactions. Greenhill and Wilson posited the effects of invisibility may reduce socialization, sense of worth and other types of job satisfaction dimensions, to zero value.

Organizational communication as flexibility and control. The literature reflects some evidence that instant messaging (IM'ing) in the workplace allows for polychronic communication (i.e. multiple conversations going on at the same time, within a given snapshot of time) and that users can choose whether or not the notifications for IMs are enabled, providing for some control to the interruptive nature of the tool (Priest, 2010). The communication theory of critical mass explains an almost viral spread of communication throughout a community as communication is simultaneously undertaken by "the largest number of people with the least effort" (Cameron & Webster, 2005, p.

90). Enterprise tools such as Yammer have become the venue for organizational instant messaging and conversations along the continuum of micro and macro perspectives proceed constantly on a 24/7 basis.

Stemming from the concept of technology as a control mechanism (Yates, 1989), some view the IM system as a way for employers to monitor who is actively paying attention to work matters and who is not. Analogously noting the "Hawthorne effect" (Weisbord, 2004), which was observed at the Hawthorne Works factory in connection with organizational productivity, past researches have attempted to inform current management practices by explaining the temporary increase in productivity arising out of organizational monitoring and observation.

The notion of fairness, along with privacy concerns, may prompt perceptions by employees that they ultimately have less control over their own work due to the expectation that they be ever-available for interruptive dynamics of technology, such as IMs (Cameron & Webster, 2005). Eluding to the complicated dynamics of fairness, privacy and control, Cameron and Webster (2005) reported the benefits of IM from employees' points of view as being critical mass and informality as well as instantaneous responses or rapid feedback.

Employee Attributes and ICT Usage

Mitchelson (2009) explored the relationship between perfectionism and perceptions of work-family conflict, finding that those who developed a situational perfectionism (i.e. had expectations of themselves for a higher-quality work product) could either adapt and, therefore, better balance work-family conflict; or fail to adapt, which seemed to predict a higher propensity for work-life conflict incidences or feelings.

Greenhill and Wilson (2006) found there were gender differences where females reported experiencing a higher degree of perfectionism-related stress and work-related cell phone usage than males. The authors stated their findings seemed to indicate females often felt they did not live up to their own expectations regarding the level of quality of their work when balanced against work-family demands.

Underwood and Harrison (2009) also explored the concept of perfectionism as it related to work performance, focusing upon college-level students who espoused different value systems than other age groups. The researchers observed that the college students were of a generation that had "grown up" working in a world directly affected by the intersections of emerging technologies, rapid society changes, interactive media, and substantive shifts in family dynamics/demographics. Underwood and Harrison (2009) built upon previous research that argued "perfectionists create better end-products due to their high internal standards and tend to meet deadlines due to their inclination for organization" (p. 32), focusing on positive behaviors that facilitate their success. On the negative side, the researchers found that perfectionists are prone to fear of failure, depression, anxiety and guilt.

Underwood and Harrison (2009) found significant differences between genders in terms of internal performance expectations as well as external expectations of the workplace. According to Underwood and Harrison's (2009) findings, value systems and expectations of males generally matched the value systems and expectations found in the workplace. The researchers found females showed a preference for the workplace to align itself to their values and expectations. Aside from the observed gender dynamics of the

findings, Underwood and Harrison's study seemed to suggest that personal values have a significant impact on self-image and how one's future was viewed.

Canivet, Östergren, Lindeberg, Choi, Karasek, Moghaddassi, and Isacsson (2010) reported that "diurnal variation in stress hormone levels in male and female managers indicated that stress levels in women were as high after work as they were during work; whereas for men, stress levels rapidly decreased after work" (p. 1237). The researchers also reported that "What constitutes…'family demands' for each family member is…not a static or uniform quantity" (p. 1244). The researchers' findings seemed to suggest that females' assessment of their own work performance was not always as satisfactory as they would have liked. Female respondents indicated this was due to increased demands on their time when combining work and family obligations.

Similar to the concept of perfectionism, Burke and Fiksenbaum (2009) explored the elements of passion versus addiction in connection with work motivations, satisfactions and health. Burke and Fiksenbaum's (2009) results found a positive correlation between passion and addiction and further, that managers who scored higher on passion and addiction (measured exclusively) were more heavily invested in their work. The study also indicated that those who had higher passion scores reported less obsessive job behaviors and a higher level of satisfaction and well-being. Not surprisingly, managers who scored higher on addiction indicated a higher level of unhealthy (obsessive) behaviors as well as lower levels of job satisfaction and psychological well-being. Managers who scored higher on addiction measures reported that their organizational cultures were less supportive of work-life balance. The managers

indicated they felt as though they had no choice but to extend their efforts, using whatever means necessary.

Stress, Health and the Workplace

Watson Wyatt Worldwide (2010) published a report for 2009/2010 entitled *The Health and Productivity Advantage*. Among the key findings was that 75% of the respondents indicated they felt they had excessive work hours with 65% who indicated they regularly experienced a lack of work-life balance (Watson Wyatt Worldwide, 2010). Fears of job loss were reported by 64% of the respondents (Watson Wyatt Worldwide, 2010). At the time of the report, only 24% of companies were actively addressing excessive workloads with 40% of the companies reporting they were working to enhance the work-life balance of their employees (Watson Wyatt Worldwide, 2010). Interestingly, 42% of companies reported working to address employees' fears about job loss (Watson Wyatt Worldwide, 2010).

Watson Wyatt Worldwide's (2010) findings acknowledged that a moderate level of stress can be productive but also stipulated stress can be harmful to an organization if support is lacking or employees find themselves unable to cope with the variety of demands they experience. Additionally, the report stated that due to the economic downturn, greater uncertainty about job expectations, job security and reductions in pay/benefits have placed added pressures on employees to "do more with fewer resources and to work longer hours" (p. 19). Significant sources of stress, according to the report, include "technologies that extend the day" with 25% citing lack of technology, equipment and tools to do the job as a primary source of stress. Of the respondents from the U.S., 23% of respondent companies reported taking actions to address such problems.

Canadian employers who responded to the survey reported a more proactive approach with 32% stating they are taking actions to mitigate the problem of a lack of technology and equipment (Watson Wyatt Worldwide, 2010).

In connection with extending the work day, cell phones "have transformed proximity, so that it is now based on time rather than place" (Bittman, Brown & Wajcman, 2009, p. 229). In their 2009 study, the researchers found no evidence to support the hypothesis that frequent cell phone use was positively correlated with a heightened sense of time pressure (p. 230) and further, found no evidence to support the claim that cell phones are a primary extension of work technology. The results of their research suggested that the majority of cell phone use outside of work hours was not work-related (Bittman, Brown & Wajcman, 2009). While the sample size for the study was small, the results offered some degree of resistance to the argument that cell phones negatively impact stress levels of employees outside of work, thereby making employees feel more or less rushed than if they did not have connectivity through their cell phones.

Strategic Role of HR

There are a number of researches that have found the ways in which organizations treat their employees has been shown to directly affect work outcomes (e.g., Eisenberger, Fasolo, & Davis-LaMastro, 1990; Eisenberger, Huntington, Hutchinson, & Sowa, 1986; Settoon, Bennett, & Liden, 1996; Wayne, Shore, & Liden, 1997). Tsui, Pearce, Porter, and Hite (1995) point to HRM as a sustained point of contact throughout the lifespan of employee/employer relationships. Tsui, et al., also observed that HRM is instrumental in developing and maintaining the exchange relationship between organizations and employees.

In a similar study, Tsui, Pearce, Porter, and Tripoli (1997) found a relationship between positive returns on investments in human capital and creative, outside-of-the-box workplace recognition mechanisms. Shore and Shore (1995) reported that discretionary HR practices seem to suggest organizational caring when not required by compliance or other types of employment contract obligations. Shore and Shore (1995) posited that such discretionary practices may demonstrate to employees that their contributions to the organization are valued. Further, the authors stated that implementation of such practices can be a critical factor in the development of perceived organizational support.

HR can adequately answer a number of individual needs within the organizational setting including existence, relatedness and growth needs (Alderfer, 1972). Examples of existence needs include satisfactory compensation and benefits as well as perceptions of fair treatment and feeling valued within the organization. Growth needs are met by efforts to develop employees within the scope of organizational capacity, leveraging the potential of employees individually and as collective inputs into the organization as a system. Employee-centric rewards and incentive programs contribute positively to employees feeling connected and valued by the organization as do training and development efforts that enhance individual contributions to the success of the organization as a whole (Alderfer, 1972).

HR practices can provide social support systems within an organization, facilitating work-life balance and instilling confidence in leadership, known as leader-member exchange (LMX). The LMX theory argues that “the creation by leaders of in-groups and out-groups” cultivates conditions that may lead to “higher performance

ratings, less turnover, and greater job satisfaction" (Robbins & Judge, 2007, p. 415) for those who are included in the in-groups. LMX reaches beyond HRM and incorporates direct supervisors and managers who represent positive relationships between employees and the leadership of the organization. Healthy organizational climates built upon reciprocal LMX encourage employees to feel "related" to the organization through personal and mutually satisfying interactions during the course of their work (Alderfer, 1972).

LMX is beneficial to organizations by facilitating employee perceptions of positive organizational support and having a positive influence on employee behavior (Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001). Eisenberger, et al. (2001) point out that in situations where employees feel they are being treated fairly, they may feel a need to give back to the organization by contributing to the organization's strategic goals.

Similar to LMX, social exchange theory (Blau, 1964) hypothesizes that the employee-employer relationship consists of a norm of reciprocity whereby employees who are treated well, feel compelled to treat the organization well in return. The concepts of perceived organizational support and social exchange theory can also explain employees' reluctance to leave their work behind in order to recharge and focus upon family, friends and other non-work related endeavors.

Paré and Tremblay (2007) provide further argument for high-involvement HR practices citing the positive relationship to employee intent to remain with an organization. The researchers found that "HR practices, directly and/or indirectly, play a determining role in the development of procedural justice and affective commitment, the

adoption of extra role behaviors, and the intention to stay with the organization" (p. 350). Further, the researchers argue that positive HR strategies can be crucial to attracting and retaining highly skilled professionals. Reinforcing Maslow (1954) and Alderfer (1972), Paré and Tremblay (2007) argue that employees, especially highly skilled professionals, should be viewed as individuals who have the motivation to satisfy specific development interests through the dynamics of learning, opportunity and empowerment. These individuals, according to the authors, provide organizations with a competitive advantage that becomes sustainable by organizational efforts to retain talent.

Summary

As many of the developments that changed the work environment from a defined time and space to a boundaryless environment were incremental, the resulting changes in the work environment have not necessarily been predictable (Priest, 2010). Shifting manual systems such as payroll, employee management, communications, reporting and the infrastructures required to support such automation of processes didn't always reduce the amount of human capital necessitated (Robbins & Judge, 2007; Swanson & Holton, 2009). Rather, changes in work conditions have necessitated that employee skill sets evolve in tandem with the changing needs of organizations as primary consumers of human capital through technological means (Swanson & Holton, 2009).

Analytical work that used to be accomplished through low technologies such as paper and pencil, or even computer punch cards, can now be accomplished on a PC or laptop, generating reports that include parameters, graphics and forecasting (Weisbord, 2004). The combination of hardware, software and human skills presents a mix of brainware ("know why") and abilities, including experience, transfer of knowledge, hands-on application and technology transfer (Burgelman, Christensen & Wheelwright, 2004). In order to fully leverage the "know how" portion of the equation required to utilize technology, a great deal of formal and informal education or training must be fed into what could be considered the open system of organizations leveraging technology through human capital.

Regardless of whether or not an organization has a positive view of their strategy (i.e. what is actually occurring) or a normative view of their strategy (i.e. what should be occurring), the manner in which organizations respond to change determines their

position in the market (Burgelman, Christensen & Wheelwright, 2004; White & Bruton, 2007). Considering the rapid pace of technological change, it has become critical that a cross-disciplinary approach be deployed within the context of economic development opportunities. Increased consumer sophistication and shorter product life cycles have required organizations to become more proactive and entrepreneurial. Proactivity involves reducing time to market and/or increasing flexibility in response to the emergence of new or altered technologies.

For sustainability and long-term success, organizations must maximize competitive advantage by effectively leveraging new technologies through human capital. As technologies change, the tools of management must change while keeping in the forefront the process of determining what those new tools should be. Kearnes, Taylor and Hull (2005) assert that if the functions of planning, implementation, training, change management, technology evaluation and product/process integration are not consistently working together, the strategic objectives of an organization will be unattainable.

When the concept of work-life balance was identified as an important issue in the 1980s, the focus was mainly on the growing number of "women with dependent children entering the workforce" (Robbins & Judge, 2007, p. 629). Presently, it is not so clear that work-life balance is entirely a gender issue, though much evidence seems to suggest that it remains so (Nippert-Eng, 1996). Despite many leading organizations' implementation of programs providing for on-site child care, flextime, job sharing, telecommuting, and part time employment, many of those programs are in jeopardy due to a negative economic impact on organizations (Watson Wyatt Worldwide, 2010). Increased travel demands have been offset by teleconferencing and electronic interactions; however, the

impact of globalization has potentially outweighed any realized time savings due to operating in different time zones, at all hours of the day or night (McNeil, 2009; Priest, 2010).

When organizations intend to compete on a global scale, analysis of factors influencing how the human capital component of strategy is managed may be quite complex (Robbins & Judge, 2007; Swanson & Holton, 2009). Socioeconomic conditions, teaching and learning styles, cultural differences and the basic construction of the concept of work. all vary depending upon the mix and location of the organization's operations (Swanson & Holton, 2009). Cross-cultural leadership challenges involve rising to the needs of the organization while providing effective leadership and management development (Robbins & Judge, 2007; Swanson & Holton, 2009). It would appear that the technological advances discussed above would facilitate enhanced productivity; however, the actual measure of productivity is far more complicated and remains unquantified.

CHAPTER 3

Research Methodology

The purpose of this research was to provide a view of the multifaceted problem of managing technology (specifically ICTs) while balancing the needs of the humans within organizations that utilize those technologies. The evolution of the boundaryless workplace has become an indispensable component of managerial and leadership issues surrounding the processes by which organizations consume human capital via technology.

The focus of this research was to investigate whether or not organizations regulate employees' constant connectivity to work during non-working hours through the use of ICTs. This research examined whether those typically involved in the formation of organizational policy anticipated the formation and adoption of policies regarding employees' non-working hours' usage of ICTs. Based upon data collected, a framework for a best-practices organizational policy model was developed.

Restatement of Research Questions

The research questions answered in this study included:

1. Do organizations have formal policies that limit employees' work-related usage of ICTs during non-working hours?
2. Do organizations have informal policies (i.e. management practices) that limit

employees' work-related usage of ICTs during non-working hours?

3. Do organizations have formal policies demonstrating organizational commitment to the importance of employees taking time away from work or do they leave this decision to employees?
4. Do organizations have informal policies (e.g. management practices) demonstrating organizational commitment to the importance of employees taking time away from work or do they leave this decision to employees?
5. Absent existing formal and informal policies regarding employees' non-working hours' usage of organizationally-provided ICTs, what is the likelihood they will adopt such a policy within 1-3 years?
6. If organizations are likely to adopt formal or informal policies regarding employees' non-working hours' usage of organizationally-provided ICTs, what are the reasons for the development and implementation of such a policy?
7. Based upon data collected from this study and the information reflected in the literature, what elements should be included in an organizational policy regarding employees' non-working hours' usage of organizationally-provided ICTs?

Research Design

The researcher used a non-experimental, primarily descriptive research design, with constructs drawn from extant literature regarding organizations as consumers of human capital, evolution of the boundaryless workplace, work-life balance, ICTs, organizational policy development and management issues associated with technology. The purpose of the design was to determine whether or not organizations have formal and/or informal policies relating to non-working hours' usage of ICTs by employees for

work purposes. Due to the dearth of literature directly addressing the question of organizational policies regarding employees' non-working hours' usage of ICTs, the research was largely exploratory in nature and well-accommodated by survey research design. Additionally, the design allowed for development of a framework for a best practices model regarding organizational ICT policy development.

As the researcher did not discover an existing validated survey instrument which measured the constructs and answered the research questions relevant to this study, a survey instrument was designed, piloted and administered to the sample described in the section below entitled "Population and Sample". After administrative review by the Indiana State University Review Board (IRB #9006), the study was determined to be one that did not involve human subjects.

The survey instrument was designed utilizing nominal/categorical, multiple selection and open ended responses. The survey made minimal use of one Likert-type scaled response where 1 represented *very likely* and 4 represented *not sure* (Babbie, 1998).

Items contained in the survey were carefully developed such that they were clearly linked to the theoretical construct being assessed in line with Hinkin's (1998) recommendations. As reflected in the literature, the length of the survey could have a "negative linear relation with response rates in…web surveys" (Fan & Yan, 2010, p. 133) and was taken into consideration when the instrument was designed. A total of 20 survey items, excluding demographic questions, were included in the survey.

Population and Sample

This study focused upon those who would likely be instrumental to the policy-making process in organizations: human resource professionals. The target population, all human resource professionals in the United States, would have been ideal to include, however, due to the considerable expense involved in studying the entire population, this research was limited to a reasonably accessible sample of individuals who represent the population (Gall, Gall & Borg, 2005). As described by Gall, et al. (2005), the "accessible population is the entire membership of a set of people, events, or objects that can feasibly be included in the research sample" (p. 128).

For purposes of this study, the accessible population was represented by a sample from the HRM population comprised of the largest HRM professional association in the world which has over 250,000 members (SHRM, n.d.), thus answering the problem of sampling error. Sampling error can be described as "the difference between a statistic (e.g., a mean score) for a sample and the same statistic for the population" (Gall, Gall & Borg, 2005, p. 129). In order to avoid a sampling error or to reduce the size of any unavoidable sampling error, the sample for this research was not randomly drawn from the entire HRM professional population, thereby increasing confidence in the results (Gall, Gall & Borg, 2005).

"Population validity refers to the degree to which the sample of individuals in the study [were] representative of the population from which it was selected" (Gall, Gall & Borg, 2005, p. 130). The sample for this study was similar to the accessible population of HRM practitioners who would have a high likelihood of being involved in the initiation, development and/or execution of organizational policy within the course of their day-to-

day responsibilities. It was reasonable to expect that the types of individuals involved in SHRM would be representative of their organization's stance on policy initiation, development and/or execution and that those individuals would have been able to represent policy development on behalf of their organization as would normally be expected within the context of their regular work duties. Evidence of similarity among potential respondents with regard to similar professional attributes and interests was represented by the large membership of SHRM.

The membership of SHRM has continually expressed a need for information and education regarding common issues and trends facing HRM practitioners throughout the U.S., as well as internationally. Additionally, the issues and trends regularly addressed through SHRM resources have also been observed to be highly relevant in other HRM publications and resources such as *Workforce Management*, and *HR.com.*

"Purposive sampling targets a particular group of sample members. When the desired population for the study is rare or very difficult to locate and recruit for a study, purposive sampling may be the only option" (Swanson & Holton, 2005, p. 51). In this research, the purposive sample was drawn from HRM professionals from SHRM.

SHRM's membership is comprised of HRM professionals from all disciplines globally. The organization's mission is to "Build and sustain partnerships with human resource professionals, media, governments, non-governmental organizations, businesses and academic institutions to address people management challenges that influence the effectiveness and sustainability of their organizations and communities" (SHRM, n.d.).

The sample drawn from SHRM included members who were Senior Professional in Human Resources (SPHR) and/or Global Professional in Human Resources (GPHR)

certified. In order to be certified as an SPHR and/or GPHR, individuals must possess a certain number of years' experience in HRM practice and must also demonstrate mastery of the discipline's body of knowledge (Human Resource Certification Institute, n.d.). Appendix A outlines the requirements and eligibility for both the SPHR and the GPHR certifications.

The SPHR and GPHR groups, along with non-certified survey respondents, would have been likely to be representative of a larger population of human resource professionals within many types of organizations, thereby improving generalizability of the study's findings.

Research Partnership

In order to obtain the sample for this study, a partnership was established with SHRM. Social exchange theory reinforced the importance of SHRM's relationship with its members as it pertained to research participation (Dillman, 2000). It was theorized that potential respondents would immediately recognize SHRM as a credible and worthwhile organization to which they relate and would, therefore, be more likely participate in the study if they felt they could make a contribution to the association.

In connection with this research, the partnership with SHRM was necessary to initiate contact with a large number of HRM professionals from SHRM's membership who would have been considered ideal potential respondents. As a standard operating practice and for privacy reasons, SHRM does not publish or distribute its membership roster but does offer a mailing list that can be purchased for research to be conducted by U.S. Mail. Because the research was to be conducted through the Internet, SHRM was critical to ensuring access to current contact information for potential respondents for the

purpose of survey link distribution. SHRM was also a valuable resource in ensuring the survey instrument would be delivered in a format that was familiar to the membership, thus increasingly the likelihood of participation.

SHRM agreed to assist the researcher in piloting the survey instrument and provided feedback to refine the instrument. SHRM also agreed to facilitate the distribution of the survey to its membership via email, including the distribution of reminder emails for the invitation to participate in the research study. The researcher and SHRM agreed that data collected by the survey would be co-owned and that confidentiality of the respondents would be protected by all parties throughout the data collection, analyses and storage processes.

SHRM regularly conducts survey research involving technology and other relevant topics, reporting an average response rate of 17% (SHRM, n.d.). The average number of responses in similar SHRM studies that had similar sample frame sizes was 385 and the average margin of error was +/- 4.4 (SHRM, n.d.).

Despite the fact that researches such as Baruch and Holtom (2008) suggest that response rates from organizational representatives (i.e. executives) could be considerably lower than for other types of respondents, the topic was potentially of high interest to the respondents and therefore positive outcomes in terms of response rates could be anticipated (Edwards, et al., 2002). Anseel, Lievens, Schollaert and Choragwicka (2010) found that "Topic salience is a type of interaction between target population and researcher interest, and is assumed to result in high motivation and involvement of the participants" (p. 337). During initial conversations with SHRM and the researcher,

SHRM determined that the topic was of interest to their general membership and that the research partnership represented a good collaboration opportunity for both parties.

The emailed survey invitation explained that the collaborative research effort was university sponsored. The literature has reinforced that research collaboration "between the surveying organization and the university may lead to a more neutral, confidential and credible image of the survey initiative" (Anseel, et al, 2010, p. 337). Providing further rationale for the research partnership, several researches have suggested that survey invitation communications mentioning university involvement or collaboration seemed to have a positive impact upon response rates (Bruvold, Comer & Rospert, 1990; Edwards, et al., 2002; Fox, Crask & Kim, 1988).

Sample Size and Procedures

Due to the potential difficulty in reaching the HRM population, the researcher determined the best possible scenario would be to sample HRM professionals who are members of an international professional association such as SHRM. Additionally, working with an international association of HRM professionals would allow for observation across a wide variety of organization types, sizes and contexts.

A sample of HRM professionals who were members of SHRM was randomly selected from the membership database. The membership database included more than 250,000 individual members at the time the research was conducted. Only members who had not participated in a SHRM survey or poll in the six months preceding the launch of the study were included in the sampling frame. Members who were students, consultants, academics, located internationally or who had no email address on file with SHRM were excluded from the sampling frame.

Instrumentation

For purposes of this research, data were collected utilizing a survey response instrument. "The survey is now recognized as the most frequently used data collection method in organizational research for assessing phenomena that are not directly observable" (Swanson & Holton, 2005, p. 98). Broadly, the advantages of survey research were that surveys can be less expensive, quicker and broader in coverage. Within the context of this research, a survey research design allowed the researcher to gather data from a larger number of respondents than would have been possible utilizing other data collection methods such as pencil and paper surveys distributed via U.S. Mail.

The survey instrument directly addressed the research questions for the study and was developed because the researcher was unable to find an existing survey instrument that addressed the research questions the researcher sought to answer. The instrument was developed based upon extant literature regarding organizations as consumers of human capital, evolution of the boundaryless workplace, work-life balance, ICTs, and organizational policy development regarding employee use of ICTs during non-working hours. Questions were developed to be purposeful such that "the respondent can readily identify the relationship between the intention of the question and the objectives of the survey" (Fink, 1995b, p. 13).

The survey contained 20 questions and it was anticipated it would not take more than 10 minutes for respondents to complete. Questions included nominal or categorical responses, open-ended responses and one Likert-type scaled question.

Nominal or categorical questions were utilized as they were expected to yield answers that "lend themselves more readily to statistical analysis and interpretation"

(Fink, 1995b, p. 16). Nominal questions were also appropriate "because the respondent's expectations are more clearly spelled out…[and] the answers have a better chance of being more reliable or consistent over time." (Fink, 1995b, p. 16).

Open-ended questions (e.g. "other") are "useful when the intricacies of an issue are still unknown, in getting unanticipated answers, and for describing the world as the respondent sees it – rather than as the questioner does" (Fink, 1995b, p. 15).

The scaled question also followed Fink's (1995a) advice in that it utilized "A meaningful scale [which] is one that makes sense in terms of the survey's specific objectives" (p. 50). Fink (1995a) further advised that "A scale is balanced when the two endpoints mean the opposite of one another and the intervals between the points on the scale are about equal" (p. 52).

Pilot Study

As the researcher uncovered no valid survey instrument that directly (or even somewhat indirectly) addressed the constructs to be studied, a survey instrument was developed and piloted according to best practices for survey design. Gall, et al. (2005) pointed to the importance of gleaning a preliminary understanding of how survey items could be interpreted by respondents.

Design of Survey Invitation. During the pilot phase of the research, details of the survey invitation were closely scrutinized to include the elements of informed consent that would normally be expected during the course of web-based survey research. The researcher and SHRM worked closely to ensure the integrity of the research matched the ethics and quality expectations of both the university and the professional association.

Data Collection Procedures

Data collection was facilitated via direct contact method through email addresses on file with SHRM. Respondents answered survey questions through DatStat, which is a survey data collection suite.

Data Analyses

Data from respondents' answers were analyzed utilizing Microsoft Excel, Statistical Analysis Software (SAS) and Statistical Package for the Social Sciences (SPSS). This study utilized descriptive statistical analyses as well as limited qualitative analysis for open-ended responses.

Protection of Human Subjects

The Indiana State University Institutional Review Board (IRB) determined the study did not involve human subjects. However, the researcher followed IRB procedures regarding protection of human subjects as prescribed had the study been one that involved human subjects. Confidentiality was protected by the researcher and SHRM through non-disclosure of data, including any information that could be cross-referenced, inadvertently identifying respondents. Further, disaggregated responses were not distributed to anyone outside of the researcher, the SHRM research administrator and the SHRM survey analyst.

Summary

A survey instrument was designed to address the constructs that were relevant to the study. The survey instrument was piloted and revised based upon feedback from pilot respondents. Data were collected utilizing the Internet survey instrument via DatStat to address each of the research questions. Data were analyzed utilizing Microsoft Excel, SAS and SPSS. All Indiana State University IRB policies regarding Internet research were followed despite the fact that the study did not involve human subjects. Respondents' confidentiality was protected by both the researcher and the SHRM research team.

CHAPTER 4

Findings and Data Analyses

This chapter reports the findings and analyses which were performed on data collected from the sample of SHRM members. Data were collected via an Internet survey instrument. Questions included nominal or categorical responses, open-ended responses and one Likert-type scaled question. Data analyses were performed using Microsoft Excel, SAS and SPSS.

Results of Pilot Study

The pilot study provided the researcher an opportunity to refine the survey instrument in order that potential problems in interpretation of the wording or barriers to analysis of data could be identified and rectified prior to data collection. Clarification and revision of items such as leading questions, threatening questions or questions that might otherwise make respondents feel uncomfortable, as well as ensuring questions were directed toward individuals who would likely have the information requested, were directly addressed where necessary during the final stages of development during the pilot study.

In addition to addressing the importance of how survey questions were worded, the survey design as it appeared via DatStat was carefully considered during the pilot.

Regarding visual presentation of the survey, Fan and Yan (2010) state that "How a survey is presented on the website can directly or indirectly affect the response rate" (p. 139), therefore special considerations were given to consistent presentation of the survey as it would be viewed from a SHRM member's perspective. Technical flaws were removed, mitigating the risk of incomplete survey responses. Skip logic was used commensurate with the screen-by-screen appearance of the survey via DatStat according to the order of the questions. Skip logic was developed based upon answers to preceding questions, ensuring respondents could move through the survey efficiently and without confusion or disorientation. Skip logic prevented respondents from unnecessarily viewing questions that did not apply to them, offsetting the risk for survey fatigue. The adaptive component facilitated progression through the survey in a manner that was logical and linear based upon responses provided (Peytchev, Couper, McCabe, & Crawford, 2006).

The pilot study consisted of peer review, expert committee review and approximately 10 respondents who were familiar with survey research practices as well as HRM policy development and implementation. The inclusion of diverse pilot study participants provided a sufficient sample size to address content validity (Anderson & Gerbing, 1991; Schriesheim, Powers, Scandura, Gardiner, & Lankau, 1993). Subsequent to the pilot study, items were modified to eliminate confusing or ambiguous wording as well as any other problems that were identified.

Based upon Fink (1995a), respondents in the pilot study were asked to consider the following questions:

1. Are the survey instructions clear?
2. Are questions easily read and understood?

3. Is it clear how to choose a response for each question?
4. Are the response choices mutually exclusive where necessary?
5. Are the response choices adequately exhaustive where necessary?
6. Is it clear how to change/correct answers?
7. Is privacy clearly explained and protected?
8. What suggestions are there regarding adding or removing questions?
9. What suggestions are there regarding the clarity of questions, instructions or format?

The survey instrument was developed by the researcher as no appropriate instrument was found in the extant literature. The pilot study was conducted over the course of several weeks and minor revisions were made to specific elements of the instrument to disambiguate wording, improve visual presentation and clarify context. Skip logic was developed for questions based upon respondents' previous answers. The participants in the pilot study consisted of those who were familiar with HRM policies and practices. Participants were also well-experienced in conducting organizational and professional research involving the types of respondents who were important to reach for this research.

The pilot study required an average of 10 minutes of participants' time. All pilot study participants reported that the instrument had face validity. Minor adjustments were made to skip logic to ensure survey respondents would see only the questions pertaining to their organizational policy practices.

Survey Invitations

Survey invitations were personalized through merge fields from SHRM's membership database and respondents had the opportunity to take the survey only one time (Dillman, Tortora, Conradt, & Bowker, 1998). Unique identification codes with automatic logins were embedded into the survey URL and have been reflected in the literature as contributing to higher response and completion rates due to the perception that confidentiality would be protected to the fullest extent possible (Crawford, Couper & Lamais, 2001; Heerwegh & Loosveldt, 2003).

In an effort to pique interest in participation, potential respondents were informed in the email survey invitation that they may be eligible to earn recertification credits through HRCI, which is the SHRM affiliate for SPHR and GPHR certification. Anseel, et al. (2010) provided rationale for such an incentive, stating that the inclusion "an incentive to complete the questionnaire may help in attracting the attention of participants" (p. 337).

As suggested in the literature, the research task was clearly outlined in the invitation to participate and a realistic estimation of time to finish the survey was stated to be no more than 10 minutes (Peytchev, Couper, McCabe, & Crawford, 2006). Contact information for assistance and/or further information was provided, including contact information for the researcher and the SHRM survey administrator.

Subsequent to the pilot study, the final iteration of the web-based survey was completed. The survey contained 20 questions and it was anticipated that it would not take more than 10 minutes for respondents to complete. Appendix B contains a copy of

the full survey instrument. Appendix C displays the skip logic applied to survey questions.

The first page of the web-based survey contained further explanation of informed consent. Although risk was determined to be minimal and confidentiality was assured by both the researcher and the SHRM research team, participants were given the choice to opt in or opt out of the survey by either agreeing or not agreeing with the statement "By completing and submitting the survey you are indicating your consent to participate in this research study". If participants chose "I agree to participate" the survey progressed to the first question. If participants chose "I do not agree to participate in this survey" they were redirected to a SHRM research URL, which offered further information on SHRM research.

Data Collection Procedures

On June 10, 2011, an email invitation to participate in the research (Appendix D), including a hyperlink to the survey, was sent to 3,000 randomly selected SHRM members. The anticipated response rate for this research was favorable based upon SHRM's past response rate in similar research studies utilizing similar research methods. Table 1 outlines the dates of when initial invitations and reminders (Appendices E-I) were sent, as well as the number of emails sent, the number of emails that returned due to delivery failure and the percentage of emails that failed. The sample frame of 3,000 potential respondents was static and no new respondents were added to the email pool despite email failure. Email addresses for the sample were not altered or updated subsequent to delivery failure as it would have been extremely difficult to determine the individual reasons for failure. Reasons for failure could have ranged from problems

stemming from the recipient's Inbox being full to changes in contact information that had not yet been reported to SHRM's membership team. Accordingly, each time a reminder email was sent to individuals who made up the sample of 3,000, the "Number Sent" (column 3, Table 1) reflected those who had not yet responded or those whose email had failed.

Table 1

Contact Log for Potential ICT Policy Study Survey Respondents

Email Subject	Date of Email	Number of Emails Sent	Number Failed	% Failed
Invitation to participate	June 9, 2011	3000	202	6.7%
Reminder 1	June 13, 2011	2926	206	7%
Reminder 2	June 16, 2011	2827	206	7.3%
Reminder 3	June 20, 2011	2779	204	7.3%
Reminder 4	June 22, 2011	2742	197	7.2%
Reminder 5 (Final Reminder)	June 23, 2011	2704	205	7.6%

Emails with reminders were sent a total of five times on the dates indicated in Table 1. Reminders sent to non-respondents represented an effort to increase response rates. Muñoz-Leiva, Sánchez-Fernández, Montoro-Ríos, & Ibáñez-Zapata (2009) found that personalized email follow up messages delivered with the [necessary] frequency/repetition in combination with a longer duration of survey availability seemed to have a positive influence on response rates of Internet-based surveys. Additionally, the positive effect of email reminders has been well documented in the literature. Researches

regarding use of reminders "have consistently concluded that the number of contacts is one of the most important factor [*sic*] to predict response rates" (Fan & Yin, 2010, p. 135). Accordingly, after 7 days of survey response collection and a total of 209 completed surveys, availability was extended. Table 2 displays the breakdown of responses by date, reflecting the number of completed and submitted survey responses.

Table 2

Response Date and Number of Completed and Submitted Survey Responses

Response date	Number
June 10, 2011	63
June 11, 2011	4
June 12, 2011	5
June 13, 2011	77
June 14, 2011	15
June 15, 2011	7
June 16, 2011	38
June 17, 2011	4
June 18, 2011	1
June 19, 2011	1
June 20, 2011	33
June 21, 2011	10
June 22, 2011	36
June 23, 2011	34
June 24, 2011	4
Total	332

Of the 3,000 direct contacts, a total of 332 HR professionals responded, yielding a response rate of 10.17%.

The self-administered survey was made available via DatStat over a period of 15 days. DatStat is a research management suite that includes an online survey tool which allowed respondents to electronically record their responses to a variety of types of

questions. Assurance of confidentiality was provided at the beginning of the survey along with contact information for the researcher and SHRM survey administrator. Limited demographic information was collected at the beginning of the survey to ensure respondents were in professional capacities that facilitated their ability to answer the questions contained on the survey (i.e. that they have the information being requested). Detailed demographic information including the type, size and industry of the organizations represented by individual respondents was gathered at the end of the survey in order that respondents could focus upon the subject matter questions. Placing detailed demographic questions at the end also decreased the likelihood that respondents would fail to complete the survey.

Sample

A sample of HRM professionals who were members of SHRM was randomly selected from the membership database. The membership database included more than 250,000 individual members at the time the research was conducted. Only members who had not participated in a SHRM survey or poll in the six months preceding the launch of this study were included in the sampling frame. Members who were students, consultants, academics, located internationally or who had no email address on file with SHRM were excluded from the sampling frame.

Of a sample frame of 3,000 potential respondents, data collection yielded 332 completed and submitted surveys. Of the 332 completed surveys, there were 21 respondents who stated they were not in a position that facilitated involvement in human resource policy, as well as six respondents who failed to answer the policy development

screening question. A total of 27 cases were excluded from the cumulative data yielding 305 usable cases.

Variables. This research utilized nominal or categorical variables, open-ended responses and one Likert-type scaled question. Table 3 presents the summary of variables and the number of cases with missing data for each variable. Table 3 also displays variables affected by skip logic (i.e. that were answered only by those to whom the question pertained based upon a previous answer) are noted.

Table 3

Summary of Variables and Valid Cases

	Valid		Cases Missing		Total	
	No.	%	No.	%	No.	%
SPHR Certified	305	100%	13	.04%	305	100%
GPHR Certified	283	93%	22	.07%	305	100%
Policy development	305	100%	0	.0%	305	100%
Formal ICT policy	305	100%	0	.0%	305	100%
Formal ICT application	61	20%	244	.8%	305	100%
Concern for work/life	62	20%	243	.8%	305	100%
Informal ICT policy	243	80%	62	.2%	305	100%
Communication of informal ICT policy	63	21%	242	.79%	305	100%
Informal policy application	62	20%	243	.8%	305	100%
Formal work/life policy	305	100%	0	.0%	305	100%
Elements of formal work/life policy	61	20%	244	.8%	305	100%
Informal work/life policy	243	80%	62	.2%	305	100%
Elements of informal work/life policy	115	38%	190	.62%	305	100%
Management practices	70	23%	235	.77%	305	100%
Limits on ICTs	120	39%	185	.61%	305	100%
Company provided/non- provided ICTs	15	5%	290	.95%	305	100%
Likelihood of ICT policy	120	39%	185	.61%	305	100%
Rationale for development	100	33%	205	.67%	305	100%
Non-development rationale	114	37%	191	.63%	305	100%

Results

Of a sample frame of 3,000 potential respondents, data collection yielded 332 completed and submitted surveys. Of the 332 completed surveys, there were 21 respondents who stated they were not in a position that facilitated involvement in human resource policy development, in addition to six respondents who failed to answer the question. A total of 27 cases were excluded from the cumulative data yielding 305 usable cases.

Respondents

Table 4 illustrates that 89 (30%) of the n=305 respondents indicated they were SPHR certified. Table 4 also illustrates that five (1.8%) of the n=305 respondents indicated they were GPHR certified. Two respondents indicated they were both SPHR and GPHR certified. Respondents were given yes/no choices for each nominal variable and, therefore, means were not reported.

Table 4

Count Frequencies for Certification/Non-Certification Status

Certification	Frequency
SPHR	89*
GPHR	5*
Not Certified	215
Total	305

Note. Two individuals reported they were both SPHR and GPHR certified. The count frequency in Table 4 does not reflect adjusted numbers for dual-certified individuals but rather provides a simple count of respondents who said they held either certification designation.

Organizational Demographics

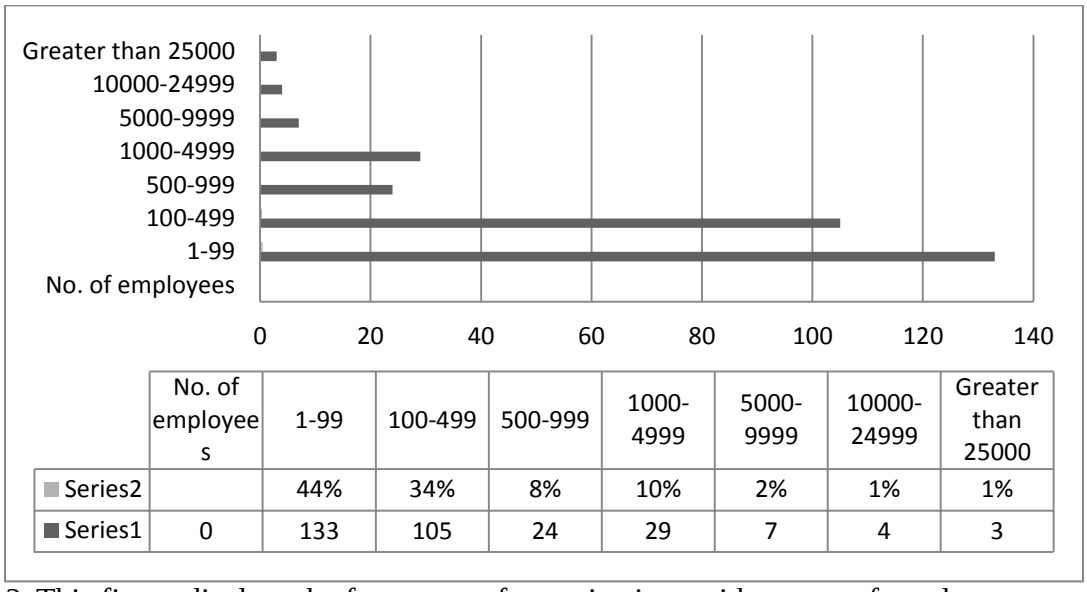
Respondents were asked several questions about their organizations including the type of organization (U.S. based or multinational), unit type (single or multi-unit), and profit status (public for-profit, private for-profit, nonprofit, government or other). Respondents were also asked about where HR policies and practices were determined (multi-unit corporate headquarters, each work location or a combination of both). As representatives of organizations, respondents were asked about their responsibility levels (corporate/company wide, business unit/division, facility/location). Table 5 provides detail for the demographic responses relating to organization type, unit type, profit status, origination of HR policies and responsibility level of respondents. Table 5 displays the demographic data including the number and percent of respondents.

Table 5
Organization and Unit Type, Profit Status, Origination of HR Policies and Responsibility Level

	Number	Percent
Type of Organization (n=303)		
U.S. Based Operations only	229	75%
Multinational Operations	74	25%
Unit Type (n=304)		
Single-unit company	104	34%
Multi-unit company	200	66%
Profit status (n=254)		
Publicly owned for-profit	56	22%
Privately owned for-profit	126	50%
Nonprofit organization	47	19%
Government agency	17	6%
Other	8	3%
Origination of HR policies (n=208)		
Multi-unit corporate headquarters	108	52%
Each work location	6	3%
A combination of both	94	45%
Responsibility level of respondents (n=208)		
Corporate	151	73%
Business unit/division	27	13%
Facility/location	30	14%

Respondent organizations ranged from having two employees to having greater than 35,000 employees. Figure 3 displays the number of employees reported for respondent organizations and includes frequencies for each range.

Figure 3. Number of Employees Reported for Respondent Organizations



	No. of employees	1-99	100-499	500-999	1000-4999	5000-9999	10000-24999	Greater than 25000
Series2		44%	34%	8%	10%	2%	1%	1%
Series1	0	133	105	24	29	7	4	3

Figure 3. This figure displays the frequency of organizations with counts of employees by range. The matrix at the bottom of the figure contains percent and frequencies for each range of employees. Series 1 at the bottom of the matrix displays the frequencies and Series 2 displays the percent. The bar graph depicts the number of employees by range. n=305

Survey respondents were able to choose from 24 industry descriptions, as well as combinations of selections where relevant. Table 6 provides the value labels and descriptions for the types of industries represented by respondents.

Table 6

Value Labels and Descriptions for Types of Respondent Industries

Value Label	Description of Industry Type
1	Accommodation and Food Services
2	Administrative and Support Services
3	Agriculture, Forestry, Fishing and Hunting
4	Arts, Entertainment, and Recreation
5	Construction
6	Educational Services
7	Finance and Insurance
8	Health Care and Social Assistance
9	Information
10	Management of Companies and Enterprises
11	Manufacturing
12	Mining
13	Personal and Laundry Services
14	Private Households
15	Professional, Scientific, and Technical Services
16	Public Administration
17	Real Estate, Rental and Leasing
18	Religious, Grantmaking, Civic, Professional, and Similar Organizations
19	Repair and Maintenance
20	Retail Trade
21	Transportation and Warehousing
22	Utilities
23	Wholesale Trade
24	Other Services except Public Administration

Figure 4 provides a breakdown of the top five industries with cumulative frequencies and percent. 54 of the n=300 respondents (18%) indicated their industry was manufacturing, 39 respondents (13%) selected health care/social assistance, 38 respondents (13%) stated they were employed in the financial and insurance industry, 29 respondents (10%) stated their organization was in the professional, scientific and technical industry and 25 respondents (8%) selected the category of “other services”.

Figure 5 presents a frequency graph for n=300 respondents and includes a matrix with value labels as presented in Table 6.

Figure 4. Frequencies and Percent for Top Five Industries

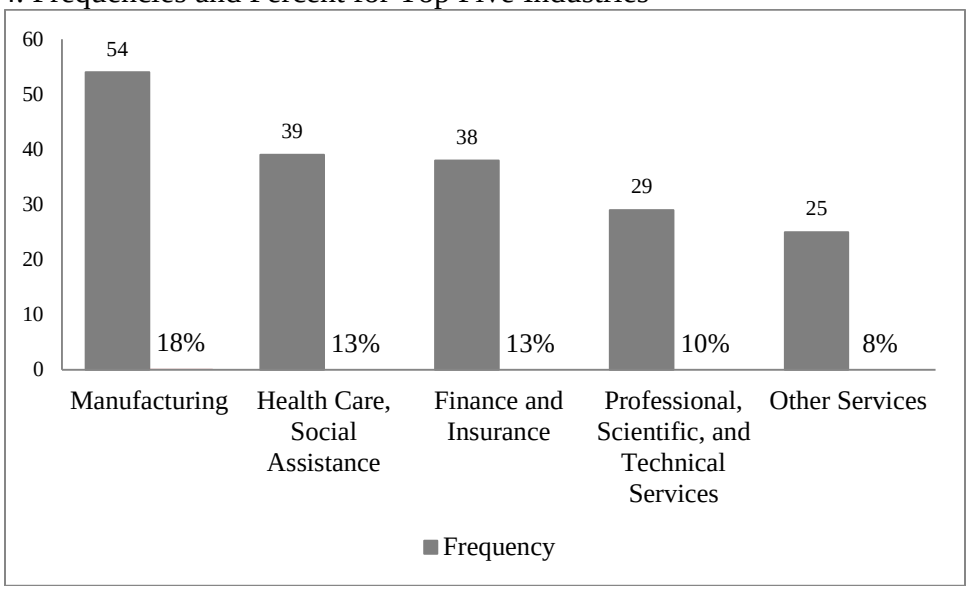
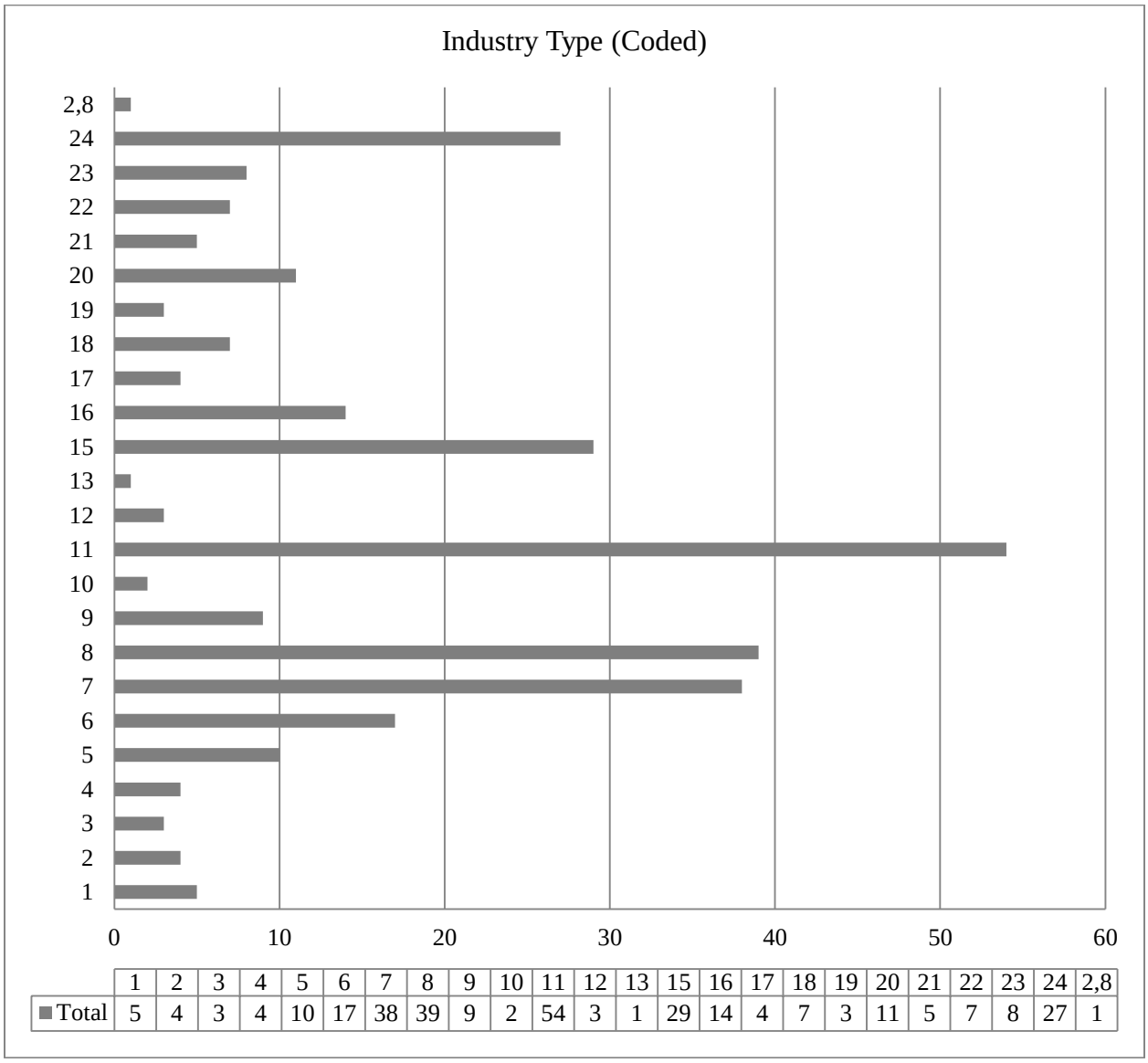


Figure 4. A total of 24 industrial categories were presented to respondents. Respondents were instructed to "check all that apply". The top five represented industries are listed in Figure 4 with frequencies and percent for each of the five industries. n=300

Figure 5. Frequencies for All Industries



	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16	17	18	19	20	21	22	23	24	2,8
Total	5	4	3	4	10	17	38	39	9	2	54	3	1	29	14	4	7	3	11	5	7	8	27	1

Figure 5. Respondents were asked to "check all that apply" regarding their organization's industry type. The top row of the matrix displays industries 1-24, with the exception of the last cell which reflects one respondent's selection of two representative industries (2, 8, far right side of matrix). The bottom row of the matrix provides frequencies for each industry selection. n=300

Formal ICT Policies

Table 7 displays the count frequencies for organizations that have/do not have formal policies regarding ICTs and employee usage for work purposes during non-working hours.

When asked whether or not their organization had a formal policy that limits employees' usage of ICTs during non-working hours (for work purposes), 63 (21%) of n=305 respondents stated their organization had a formal policy, 235 (77%) of the n=305 respondents stated their organization did not have a formal policy and 7 (2%) of the n=305 respondents were unsure.

Table 7 presents the frequencies of responses for the applicability of company-provided/reimbursed ICTs as well as frequency for those respondents who indicated the formal ICT policy mentions an organizational concern for work/life balance issues. A total of 31 of n=61 respondents (51%) stated the policy exclusively applies to company-provided or reimbursed ICTs, with 30 (49%) of n=61 respondents stating the policy was not exclusive to either company-provided/reimbursed ICTs or personally owned ICTs.

Table 7 also reflects whether or not the formal ICT policy mentions an organizational concern for work/life balance issues (e.g. limiting the amount of time employees are connected to work during non-working hours), a total of 18 (29%) of n=62 respondents stated the formal ICT policy mentions an organizational concern for work/life balance issues with 44 of n=62 respondents (71%) stating the formal ICT policy did not apply exclusively to company-provided/reimbursed ICTs.

Table 7

Descriptives for Formal ICT Policies

	Yes		No		Not Sure	
	No.	Percent	No.	Percent	No.	Percent
Formal ICT policy	63	20.7%	235	77%	7	2.3%
Applies to company-provided/reimbursed ICTs	31	51%	30	49%	--	--
Policy mentions organizational concern for work/life balance issues	18	29%	44	71%	--	--

n=305, n=61, n=62, respectively.

Informal ICT policies

Table 8 illustrates responses regarding whether or not organizations have informal policies (i.e. managerial practices) that encourage employees to limit their non-working hours' usage of ICTs for work purposes. There were n=243 respondents in which 64 respondents (26%) stated their organization had informal ICT policies, 171 respondents (70%) stated their organization did not have an informal ICT policy and 8 respondents (3%) were unsure.

Table 8

Descriptives for Informal ICT Policies

	Yes		No		Not Sure	
	No.	Percent	No.	Percent	No.	Percent
Informal ICT policy	64	26.3%	171	70.4%	8	3.3%

n=243

Table 9 depicts the count frequencies for each individual method used to communicate informal policies regarding ICTs. Respondents were given four options that could be selected individually or chosen in combination. Table 9 excludes frequencies for selection of combination methods (which is reported as an aggregate number). Individual choices included: Supervisor/manager communication directly with employee (3), at the department or unit level (3), general word of mouth (14) and other (16). Aggregate choices of combinations of methods were selected by 25 respondents.

Table 9

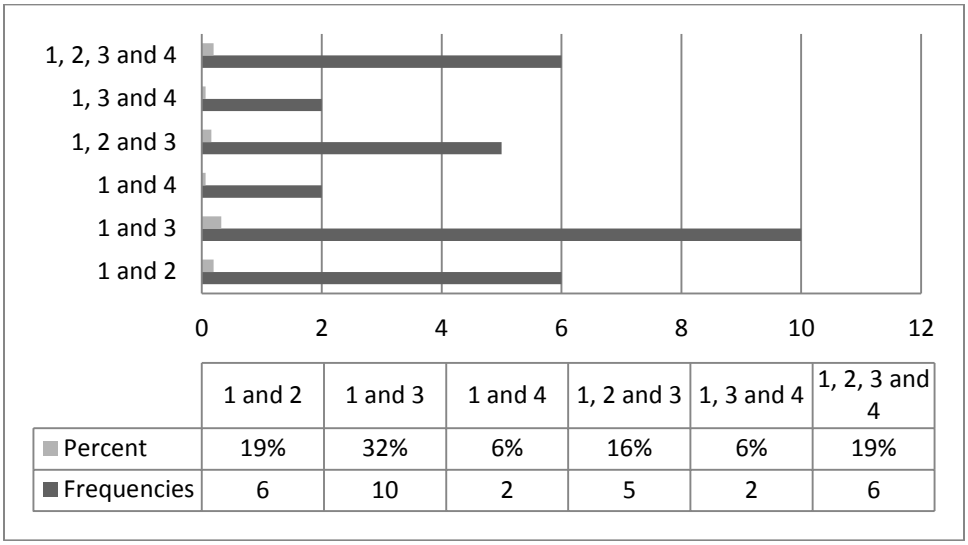
Frequencies for Methods Used to Communicate Informal ICT Policies

Option No.	Methods	Number
1	Supervisor/Manager communication directly with employee	19
2	At the departmental or unit level	7
3	General word of mouth	2
4	Other	4
--	Combinations of elements	31
	Total	63

n=63

Figure 6 reflects the frequency of each combination of methods of communicating informal policies regarding ICTs. The matrix within Figure 6 displays the number of respondents (n=31) who indicated a combination of methods was utilized to communicate informal policies.

Figure 6. Combinations of Methods Used to Communicate Informal ICT Policies



	1 and 2	1 and 3	1 and 4	1, 2 and 3	1, 3 and 4	1, 2, 3 and 4
Percent	19%	32%	6%	16%	6%	19%
Frequencies	6	10	2	5	2	6

Figure 6. This figure shows the combination selections in which informal ICT policies are communicated in respondent organizations. n=31

Descriptive responses for the open-ended choice "other" methods of communicating informal policies included:

- Referenced in some policies, but not a specific policy about it
- HR talks to manager
- Mobile use only allowed for exempt employees
- In employee handbook
- Email from HR
- Minor language in personnel procedures
- All staff meetings
- Corporate policy signature acknowledgement
- HR communicates informal policy to employees
- Policies posted on the intranet

- In person by HR
- Group meetings
- Handbook, policy guide, new employee orientation

Respondents who indicated their organization had an informal ICT policy were asked whether or not informal policies apply to company provided/reimbursed ICTs and/or to personal ICTs. Table 10 presents the frequencies and percent of responses for both variables.

A total of 30 of n=62 respondents (48%) stated informal ICT policy only applied to company-provided/reimbursed ICTs and 32 of n=62 respondents (52%) stated informal ICT policies did not exclusively apply.

A total of 41 of n=61 respondents (67%) stated that informal policies apply when employees utilized their personal ICTs for work and 20 of n=61 respondents (33%) stated informal ICT policies did not apply to personal devices.

Table 10

Frequencies and Percent for Application of Informal ICT Policies

	Company-provided		Personal ICTs	
	Number	Percent	Number	Percent
Yes	30	48%	41	67%
No	32	52%	20	33%

n=62, n=61 respectively

Formal Work/Life Balance Policies

Respondents were asked whether or not their organization had a formal (i.e., written) work/life balance policy that encourages flexibility and the importance of employees taking time away from work. Table 11 displays the results with 60 of n=305 respondents (23%) stating their organization had such a policy and 232 of n=305 respondents (76%) stating their organization had no such policy. A total of 4 of n=305 respondents (1%) stated they were unsure as to whether or not a work/life balance policy existed within their organization.

Table 11

Descriptives for Formal Work/Life Balance Policies

	Yes		No		Not Sure	
	No.	Percent	No.	Percent	No.	Percent
Formal work/life policy	69	23%	232	76%	4	1%

n=305

When asked about the elements included in their organization's formal work/life policy, respondents were provided with four choices and were instructed to "check all that apply". Choices included working during vacation time, working during sick time, working over a specified number of hours per week in the office or remotely and/or an open-ended response of "other". Table 12 illustrates the frequencies of responses where a single element was selected. Table 12 also illustrates the aggregate frequencies where a combination of elements was selected. Of the n=61 who responded, 3 respondents selected "discourages working during vacation time", 3 respondents selected "discourages working during sick time", 14 respondents selected "not working over a

specified number of hours per week either in the office or remotely" and 16 respondents selected "other". A combination of elements was selected by 25 of n= 61 respondents.

Table 12

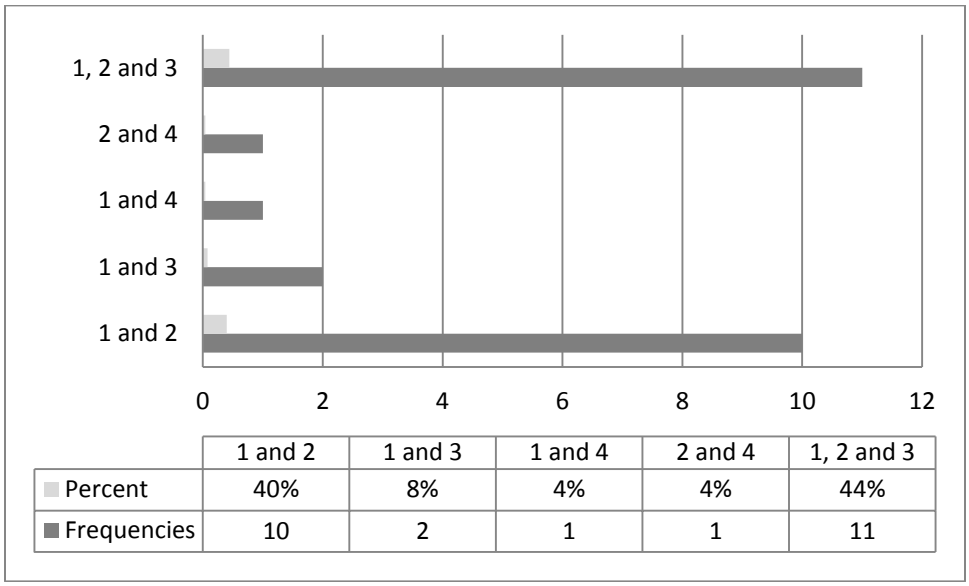
Frequency Count for Elements of Formal Work/Life Policies

Element	Number
Discourages working during vacation	3
Discourages working during sick time	3
Limits number of hours worked per week	14
Other	16
Combination	25
Total	61

n=61

Respondents (n=25) chose a combination of elements addressed in their organization's formal work/life policy. Figure 7 illustrates the five combinations selected by respondents that applied to their organization. The matrix contained in Figure 7 displays the frequency counts for each combination of elements selected by n=25 respondents.

Figure 7. Combination of Elements Addressed in Formal Work/Life Policy



	1 and 2	1 and 3	1 and 4	2 and 4	1, 2 and 3
Percent	40%	8%	4%	4%	44%
Frequencies	10	2	1	1	11

Figure 7. This figure displays the combination of elements indicated by respondents as being included in their organization's formal work/life balance policy. Frequencies are displayed in the matrix at the bottom of the figure. Frequencies for the combinations are visually displayed on the bar graph. 1: working during vacation time, 2: working during sick time, 3: working over a specified number of hours per week (on site or remotely) and 4: Other. n=25

Descriptive responses for the open-ended choice of "other" were:

- Policy explains the reason for PTO (paid time off)
- We have a policy but it is not enforced
- Flexible work schedules
- Mandatory 5-day vacation each year
- Take time away to recharge
- Expectation and encouragement to use time off
- Encouraged to take vacation
- Telecommuting, alternate work schedule
- There are no restrictions to the amount of work performed

- Teleworking policy (for some employees)
- Working over a specified number of hours/week on office work for exempt employees
- Personal time
- Generalized statement that covers spending time away
- Working without authorization
- Flexible schedules
- Possibility of flexible schedule, importance of taking a vacation
- Flextime; telecommuting
- Personal leave of absence policy

Informal Work/Life Balance Policies

When asked if respondents' organizations have an informal work/life balance policy (e.g. management practices) demonstrating organizational commitment to the importance of employees taking time away from work to recharge, 126 of n= 243 respondents (52%) answered affirmatively, 112 of n= 243 respondents (46%) answered no and 5 of n= 243 respondents (2%) were unsure. Table 13 displays the responses for informal work/life balance policies.

Table 13

Descriptives for Informal Work/Life Balance Policies

	Yes		No		Not Sure	
	No.	Percent	No.	Percent	No.	Percent
Informal work/life policy	126	52%	112	46%	5	2%

n=243

Elements addressed in informal work/life policies included: not working during vacation time, not working during sick time and not working over a specified number of hours per week at the office or remotely. Table 14 displays the responses for the elements that were individually chosen as well as an aggregate frequency for combinations of elements. Of n=115 respondents, 9 chose working during vacation time, 3 chose working during sick time, 14 chose working over a specified number of hours per week either in the office or remotely, 14 chose “other” and 75 respondents chose a combination of elements.

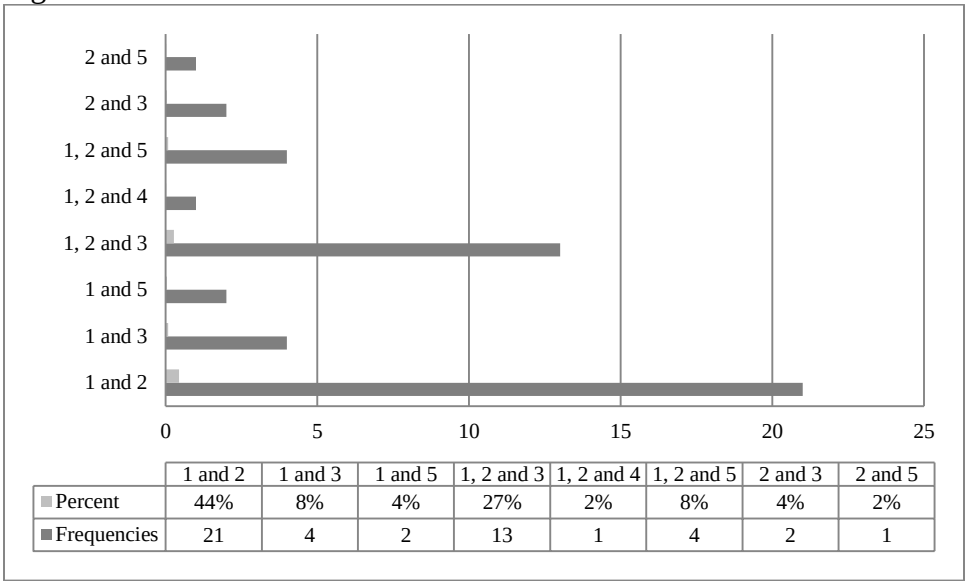
Table 14

Frequencies for Elements of Informal Work/Life Balance Policy

Elements	Number
Working during vacation time	9
Working during sick time	3
Working over a specified number of hours per week in the office or remotely	14
Other	14
Combination	75
Total	n=115

Where respondents chose a combination of elements addressed in their organization's informal work/life policy, ten combinations were reflected in responses by n=75 respondents. Figure 8 illustrates the combinations selected by respondents that applied to their organization. The matrix contained within Figure 8 displays the frequency counts for each combination of elements selected by n=75 respondents.

Figure 8. Combinations of Elements Addressed in Informal Work/Life Policy



	1 and 2	1 and 3	1 and 5	1, 2 and 3	1, 2 and 4	1, 2 and 5	2 and 3	2 and 5
Percent	44%	8%	4%	27%	2%	8%	4%	2%
Frequencies	21	4	2	13	1	4	2	1

Figure 8. This figure displays the combinations of formal work/life balance elements selected by respondents. 1 – working during vacation time, 2 – working during sick time, 3 – working over a specified number of hours per week (on site or remotely) and 4 – "other". The top row of the matrix at the bottom of Figure 8 lists the combinations of choices. The bottom row of the matrix lists the frequencies for each combination of choices. n=75

Descriptive responses for the open-ended "other" option included:

- The importance of taking vacation
- We address the importance of leaving work at work, mentally and emotionally as well as physically leaving the premises everyday [*sic*] and on weekends
- Flex time, time away for other things, suggestions from staff on how it would work for them
- Personnel procedures encourages [sic]vacation use
- Employees can leave at 3pm during summer, issued with laptops to work at home during snow days.

- Provide opportunity for alternative work schedule
- Flexible work schedule
- General statement only
- Balance work and family time
- Using vacation time annually, encourage taking two weeks consecutively
- Avoiding emails after noon the day preceding a holiday
- We simply give employees all the tools they need to get the job done, at work or at home, regardless of when they want to work
- Flexible start and end times
- Mandatory 2-week vacation must be taken annually
- Totally informal just encourage moderation
- Option to work remote
- Simple messaging about the importance of work/life balancing as it relates to health and well being
- Taking comp time (for salaried staff only)
- Flex time
- Working evenings
- Just taking time off. Many here don’t take vacations
- God first, family second, work third – take time for family as needed, make up if possible
- We encourage vacation time to be taken

- Allowing flexible work schedules to account for extra hours
- Flexibility in scheduling time away

Respondents were asked to select the management practices utilized to encourage employees to take time away from work to recharge and instructed to "check all that apply". Table 15 displays the frequencies of single choices of management practices utilized to encourage employees to take time away from work to recharge as well as the aggregate frequency for combinations choices. Of n=70 respondents, 14 chose "Supervisors/managers encourage a healthy work/life balance within their unit/work group", 7 chose "Supervisors/managers encourage employees to ask for help when necessary", 1 respondent chose "Supervisors/managers discourage employees from answering emails or phone calls via their ICTs during non-working hours" and zero respondents made the choices of "the organization has days or times when email is not used" or "other". A total of 48 of n=70 respondents chose a combination of management practices that their organization utilizes to encourage employees to take time away from work to recharge.

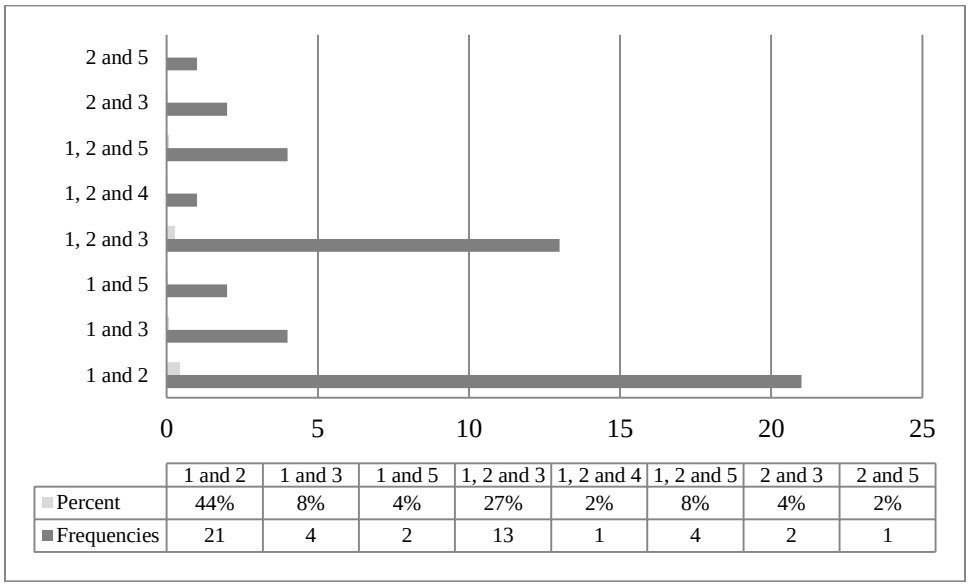
Table 15

Frequencies for Single Choices and Aggregate Combination of Management Practices

Methods	Number
Supervisors/managers encourage a healthy work/life balance within their unit/work group	14
Supervisors/managers encourage employees to ask for help when necessary	7
Supervisors/managers discourage employees from answering emails or phone calls via their ICTs during non-working hours	1
The organization has days or times when email is not used	0
Other	0
Combinations	48
Total	n=70

Where respondents chose a combination of management practices utilized to encourage employees to take time away from work to recharge, eight combinations were reported by n=48 respondents. Figure 9 illustrates the combinations selected by respondents that applied to their respective organizations. The matrix contained in Figure 9 displays the frequency counts for each combination of elements selected by n=48 respondents.

Figure 9. Combination of Management Practices for Encouraging Time Away



	1 and 2	1 and 3	1 and 5	1, 2 and 3	1, 2 and 4	1, 2 and 5	2 and 3	2 and 5
Percent	44%	8%	4%	27%	2%	8%	4%	2%
Frequencies	21	4	2	13	1	4	2	1

Figure 9. This figure displays combinations of management practices for encouraging employees to take time away from work. 1: Supervisors/managers encourage a healthy work/life balance within their unit/work group, 2: Supervisors/managers encourage employees to ask for help when necessary, 3: Supervisors/managers discourage employees from answering emails or phone calls via their ICTs during non-working hours, 4: The organization has days or times when email is not used and 5: other. n=48

Descriptive responses for "other included:

- Vacation, volunteer and sick leave policies
- Use or lose PTO policies; several paid holidays in December
- Generous paid leave policy and additional bank of time should employee run out of paid time; encourage employees to work within defined number of hours per week
- Formal "No Meeting" times have been established
- Use it or lose it vacation time, float time
- Flex time

- PTO annual balance is given at beginning of year so it is available for use immediately instead of waiting for it to accrue
- Encourage using of vacation at regular intervals

Table 16 displays frequencies and percent for responses regarding whether respondents' organizations communicate (via any means) to employees that they should limit their usage of ICTs during non-working hours for work purposes. Table 16 also displays frequencies and percent for responses regarding leaving the decision to employees. Of n=120 respondents, 15 (12.5%) stated the organization communicates to employees to limit the usage of ICTs during non-working hours for work purposes, 96 of n=120 respondents (80%) stated that the decision is left to employees and 9 of n=120 respondents (7.5%) stated they were unsure.

Table 16

Descriptives for Limiting/Not-Limiting ICTs for Work During Non-Work Hours

	Encourage Limitations		Leave decision to employees		Not Sure	
	Number	Percent	Number	Percent	Number	Percent
Responses	15	12.5%	96	80%	9	7.5%

n=120

Table 17 depicts the responses for whether or not respondents' organizations distinguish between company-provided ICTs and personally-owned ICTs for work usage during non-working hours. Of n=15 respondents, 9 (60%) stated their organization makes a distinction between company-provided/reimbursed ICTs and personally-owned ICTs and 6 of n=15 respondents (40%) stated there was no distinction made.

Table 17

Descriptives for Distinction Between Company-Provided ICTs vs. Personally-Owned ICTs

	Yes		No	
	Number	Percent	Number	Percent
Distinction between company-provided ICTs vs. personally-owned ICTs	9	60%	6	40%

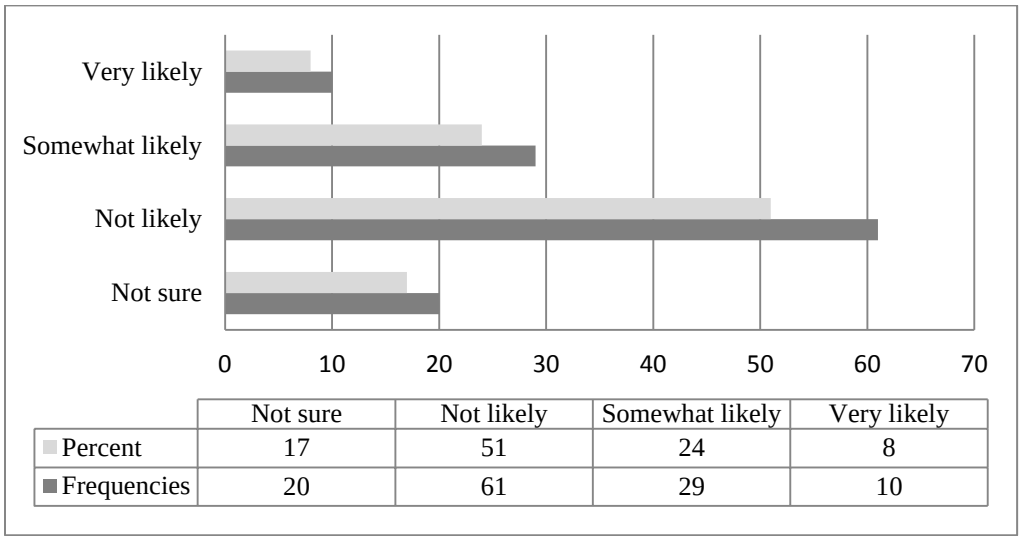
n=15

Likelihood of Policy Adoption

Respondents were asked what the likelihood would be for their organizations to adopt a formal or informal ICT policy within the next 1-3 years utilizing a Likert-type scaled question. The following choices were offered: *very likely*, *somewhat likely*, *not likely* and *not sure*.

Figure 10 depicts the responses with 10 of n=120 respondents (8%) stating ICT policy adoption was very likely within the next 1-3 years, 29 of n=120 respondents (24%) stating policy adoption was somewhat likely, 61 of n=120 respondents (51%) stating policy adoption was not likely. 20 of n=120 respondents (17%) stated they were unsure.

Figure 10. Likelihood of ICT Policy Adoption Within 1-3 Years



	Not sure	Not likely	Somewhat likely	Very likely
Percent	17	51	24	8
Frequencies	20	61	29	10

Figure 10. This figure displays the frequencies and percent of respondents with regard to the likelihood of formal or informal policy adoption by their organizations within the next 1-3 years. The top row of the matrix at the bottom of the figure displays the options. The second row of the matrix displays the percent for each option and the bottom row displays the frequencies for each option. n=120

Rationale for ICT Policy Development

Respondents were asked to select the reasons for the development and implementation of an ICT policy and instructed to "check all that apply". The following choices were presented to respondents:

- To encourage employees to recharge during non-working hours so they will be at their best during working hours
- Work/life balance concerns
- Safety/security of organizational information/data
- Other

Table 18 displays the frequencies of individually-selected reasons for ICT policy development as well as the aggregate frequency for combinations of choices. Of n=100

respondents, 7 respondents chose “to encourage employees to recharge during non-working hours so they will be at their best during working hours”, 14 respondents chose “work/life balance concerns”, 22 respondents chose “safety/security of organizational information/data” and 11 respondents chose “other”. A total of 46 of n=100 chose a combination of reasons for the development and implementation of an ICT policy.

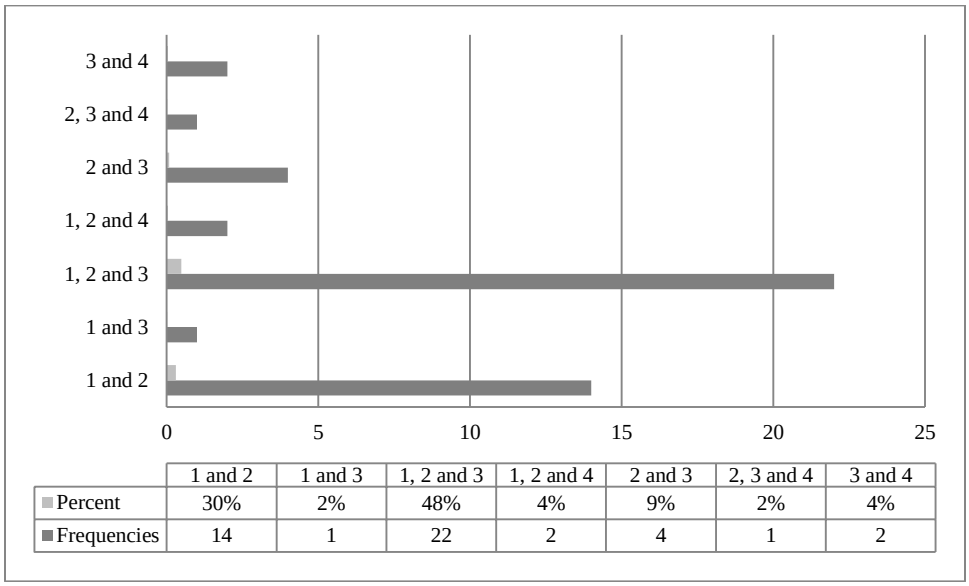
Table 18

Frequencies and Percent for Individually-Selected and Aggregate Combinations of Reasons for ICT Policy Development

Methods	Number	Percent
To encourage employees to recharge during non-working hours so they will be at their best during working hours	7	7%
Work/life balance concerns	14	14%
Safety/security of organizational information/data	22	22%
Other	11	11%
Combinations	46	46%
Total	n=100	

Figure 11 displays the combinations of reasons for development and implementation of an ICT policy. A total of 7 combinations were reported by n=46 respondents. The matrix contained within Figure 11 reports frequencies and percent for each combination choice.

Figure 11. Combinations of Reasons for ICT Policy Development



	1 and 2	1 and 3	1, 2 and 3	1, 2 and 4	2 and 3	2, 3 and 4	3 and 4
Percent	30%	2%	48%	4%	9%	2%	4%
Frequencies	14	1	22	2	4	1	2

Figure 11. This figure displays 6 reported combinations of reasons respondents stated an ICT policy would be developed within the next 1-3 years. The top row of the matrix at the bottom of Figure 11 lists the combinations and the bottom row reports the frequency for each combination. The bar graph displays the frequencies for each combination. n=46

Open-ended responses for the choice “other” included:

- Compensation issues associated with non-exempt emps [*sic*] working off-the-clock
- FLSA don't want non exempt [sic] employees using during off work hours for work
- FLSA Implications for exempt w/overtime
- Our employees are on-call, after hours is required
- I don't think they will encourage limiting at all
- Cost to company and productivity concerns
- Ensure hourly employees are paid for ALL time worked
- Overtime and Wage & Hour compliance

- Could become a compensation issue
- Wage & Hour issues
- Wage & hour issues
- Compensation issues
- Non-exempt employees using ICT's [sic] after hours to complete work
- No policy or plans to implement one
- FLSA rules
- Clarify exempt vs. non-exempt employee usage

Rationale for Not Adopting an ICT Policy

Respondents were asked what the reasons would be that an ICT policy would not be considered and were presented with the following options:

1. Employees' usage of ICTs during non-working hours (for work purposes) is not a concern
2. Our organization has no need for employees to be connected to their work 24/7 (e.g. no globalized or multi-shift operation)
3. Employees generally self-regulate their behavior
4. The organization does not encourage or otherwise place pressure upon employees to be connected to work outside of their normal workday
5. There are no employees in the organization who utilize company provided/reimbursed ICTs in connection with their work
6. The issue has not become important enough to address at this time
7. Other (please specify)

A total of n=114 respondents selected individual reasons as well as combinations of reasons for not adopting an ICT policy. Table 19 displays the frequencies of individually-selected reasons as well as the aggregate frequency for combinations of choices. Of the n=114 respondents, 6 respondents (5%) stated it is not a concern, 3 respondents (3%) stated there is no need for employees for be connected 24/7 to work, 12 respondents (11%) stated that the organizations' employees generally self-regulate their behavior, 8 respondents (7%) stated their organizations do not encourage or pressure employees to connect to work after normal working hours, 1 respondent (.08%) stated there are no employees in their organization that utilize ICTs and 24 respondents (21%) stated that the issue is not important enough to address. A total of 7 of n=114 selected "other" and a total of 53 of n=114 (56%) chose a combination of reasons an ICT policy would not be developed.

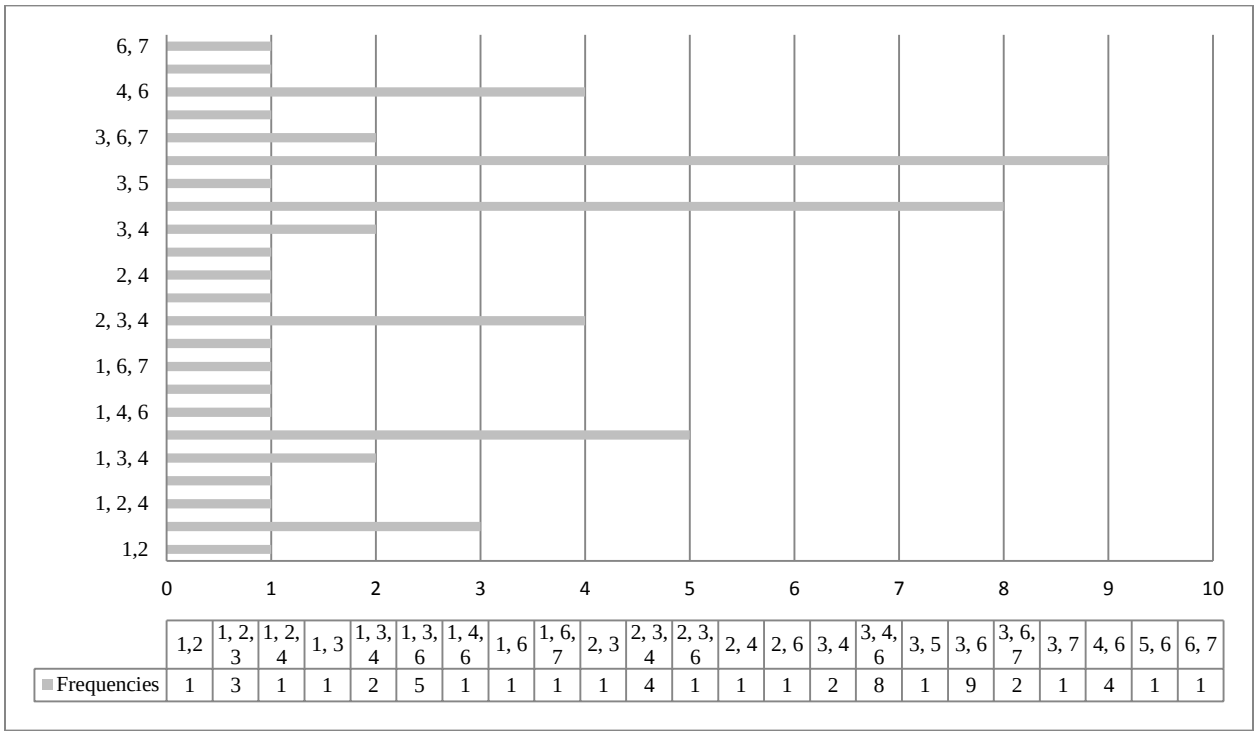
Table 19

Item number, Frequencies and Percent for Individually-Selected and Aggregate Combinations of Reasons for Not Adopting an ICT Policy

Item	Reasons	Number	Percent
1	Not a concern	6	5%
2	No need for 24/7 connectivity	3	3%
3	Employees self-regulate	12	11%
4	Doesn't encourage/pressure employees to connect to work after hours	8	7%
5	No employees utilize ICTs	1	.08%
6	The issue is not important enough to address	24	21%
7	Other	7	6%
	Combinations	53	56%
	Total	n=114	100%

Figure 12 displays the combinations of reasons an ICT policy would not be developed in respondent organizations. A total of 23 combinations of reasons were reported by n=114 respondents. The matrix contained within Figure 12 provides the frequencies for each combination choice.

Figure 12. Reasons an ICT Policy Would Not Be Considered



	1,2	1, 2, 3	1, 2, 4	1, 3	1, 3, 4	1, 3, 6	1, 4, 6	1, 6	1, 6, 7	2, 3	2, 3, 4	2, 3, 6	2, 4	2, 6	3, 4	3, 4, 6	3, 5	3, 6	3, 6, 7	3, 7	4, 6	5, 6	6, 7
Frequencies	1	3	1	1	2	5	1	1	1	1	4	1	1	1	2	8	1	9	2	1	4	1	1

Figure 12. This figure reports the item numbers outlined in able 20 for combinations of reasons respondents' organizations would not consider adopting an ICT policy. Also reflected in Figure 12 are the frequencies for each combination. The matrix at the bottom of the figure lists the item numbers of each set of combinations as well as the frequencies for each combination. n=114

Responses to the open-ended question of "other" included:

- For exempt with overtime their [*sic*] is no pressure to work during off work hours.

  For exempt without overtime working 24/7 would be fine with the company

- There are some employees who must be available after hours.

- 24/7 operation

- Company expects some people to be available 24/7.

- No proactive recognition/sensitivity to work-life balance at this time

- We are a non-profit social services/mental health facility.

- Not sure
- Since the company has reduced the number of ees [employees] with company provided/reimbursed devices, ICTs are only applicable to a limited group of ees [employees].
- We are a small consulting firm, mostly high-level professional exempt employees, passionate about their jobs. Everyone works long hours.
- Our organization expects employees mid-level and up to be available outside work hours.
- There are no employees aside from the Executive Team who have company provided ICT's.
- Insufficient data
- Only exempt would be considered and it is not at concern right now.
- We expect some of our employees to be connected outside of normal working hours.

Summary

The pilot study was conducted through peer and committee review, in addition to approximately 10 respondents who were familiar with survey research practices, HRM policy development and internet data collection as it pertained to SHRM members. Survey items were revised for clarity, face validity, and appearance. Skip logic was developed to ensure efficiency as respondents moved through the survey. The survey instrument contained 20 survey questions as well as detailed demographic questions regarding respondent organizations. Survey questions utilized nominal or categorical

variables, open-ended responses and one Likert-type scaled question. Emailed invitations to participate were personalized and all Indiana State University IRB protocols were followed.

Invitations to participate were sent to a sample of 3,000 SHRM members with 5 email follow up invitations that followed. The survey was accessible for 15 days. A total of 322 completed surveys were submitted. 27 cases were excluded from the cumulative data yielding 305 usable cases. The response rate for the survey was 10.17%. Data analyses were performed utilizing Microsoft Excel, SAS and SPSS and descriptive statistics were generated. Responses to open-ended, qualitative responses were listed and analyzed.

CHAPTER 5

Discussion, Conclusions and Recommendations

This research examined organizational policies regarding non-working hours' usage of ICTs. Despite the many researches on work-life balance, there have been only theoretical and social analyses regarding the role of organizations in utilizing technology to control how and when employees make use of ICTs during non-working hours. Additionally, organizational policies regarding ICTs have been limited to proscriptive measures (e.g. prohibiting installation of specific applications or downloads) as opposed to providing managerial parameters in the form of formal or informal policies. The dearth of literature regarding the usage of ICTs during non-working hours seems to suggest that organizations have not addressed the potential drain of human capital resources from a policy perspective.

The purpose of the research was to provide a view of the multifaceted problem of managing technology (specifically ICTs) while balancing the needs of the humans within organizations who utilize those technologies. The purpose of this research was also to examine the evolution of the boundaryless workplace as an important component of the complex managerial and leadership issues regarding organizations' consumption of human capital via technology.

The focus of this research was to investigate whether or not organizations have policies concerning employees' constant connectivity to work during non-working hours through ICTs. This research also examined whether HR professionals, who would typically be involved in the formation of organizational policy, anticipated the formation and adoption of policies regarding employees' usage of organizationally-provided/subsidized ICTs during non-working hours.

This chapter contains a discussion and conclusions based upon data collected within the context of each of the research questions. A framework for a best-practices policy model was developed and recommendations for future research were discussed.

Respondents and Their Organizations

Of the n=305 respondents, 89 respondents indicated they were SPHR certified and 5 respondents indicated they were GPHR certified. Two respondents indicated they were both SPHR and GPHR certified therefore the total number of certified respondents was 90. Of the n=305, 215 (70%) of the respondents were non-certified.

SHRM has over 250,000 individual members worldwide. As of January, 2011, HRCI reported there are 47,794 individuals who are SPHR certified. In this study, 87 individuals stated they were SPHR certified. HRCI also reported in January, 2011 that there were 917 individuals who are GPHR certified. In this study, 3 individuals stated they were GPHR certified. Per HRCI, only 824 individuals hold both the SPHR and GPHR certifications. In this research, 2 individuals stated they were both SPHR and GPHR certified which indicates that .24% of the dual certified population participated in this research.

Seventy-five percent of the respondent organizations represented were U.S. based

operations with 25% of the organizations operating multi-nationally. Sixty-six percent of respondent organizations were multi-unit organizations, of which 50% were for-profit and privately owned.

HR policies for respondent organizations were formulated either at the multi-unit corporate headquarters (52%) or at a combination of corporate headquarters and each work location (45%). Both measures seem to suggest that respondents were likely to be involved in a variety of corporate and local policy development initiatives on a regular basis.

Respondent organizations ranged from having 2 employees to over 35,000 employees. The largest percentage of respondent organizations had between 1 and 99 employees (44%) followed by 34% of respondent organizations having between 100-499 employees. The data reflects that 78% of the respondent organizations had 500 employees or less. Surprisingly, the highest number of respondent organizations represented the manufacturing industry (18%) with health care/social assistance and financial institutions ranking closely behind (13%, respectively). The top five respondent industries were fairly evenly distributed among the field of n=300 respondents. Only one respondent chose a combination of industries for their organization which was represented as "administrative and support services" and health care/social assistance. All 24 industry categories were utilized which seems to suggest a variety of respondent organizations were represented by the sample obtained in this research.

Discussion

Research Question: Formal ICT policies. *Do organizations have formal policies that limit employees' work-related usage of ICTs during non-working hours?*

Formal ICT policies limiting employee usage during non-working hours did not yet exist for 77% of respondent organizations. Only 20.7% of respondent organizations had an ICT policy in place. The results for whether or not the policy applied to company-provided or reimbursed ICTs was nearly evenly divided with (51% and 49%, yes and no, respectively). Of the organizations that stated they had a formal ICT policy in place, 71% of respondent organizations made mention of organizational concern for work/life balance issues. The high percentage of organizations mentioning work/life balance concerns in concert with a formal ICT policy limiting employee usage during non-working hours seems to suggest employers are aware of the need for positive work/life balance measures for employee relations purposes.

Research Question: Informal ICT Policies. *Do organizations have informal policies (i.e. management practices) that limit employees' work-related usage of ICTs during non-working hours?*

Informal policies (e.g. managerial practices) limiting employee usage of ICTs during non-working hours were not in place for 70% of respondent organizations. Most of the organizations that have informal ICT policies communicate them through direct contact by supervisors/managers or a combination of methods that included communicating through supervisors/managers (total frequency of 50 of n=63). The most commonly selected combination of communication methods was through supervisor/manager contact and general word of mouth (19%). All combination choices included supervisor/manager contact which seems to suggest that organizational communication of informal policies occurs on the front lines where supervisors/managers interact with employees. This also seems to suggest that supervisors and managers are

crucial to communicating organizational concern regarding positive work/life balance and constant connectivity to work via ICTs. Open-ended responses regarding the communication of informal ICT policies seems to suggest that various types of organizational communication occurs during meetings or conversations with HR, as well as by inference in other types of HR policies.

The results for application of informal ICT policies to personal ICTs did not seem to suggest a definitive application to company-provided ICTs with 52% stating the policies did not apply to company-provided devices. However, 41 of n=61 respondents stated that the informal ICT policies applied to personally owned ICTs. The data seems to suggest that respondent organizations were not particularly concerned with whether or not an ICT device, used for work purposes after work hours, is company-provided or personally owned.

Research Question: Formal Organization Work/Life Balance Policies. *Do organizations have formal policies demonstrating organizational commitment to the importance of employees taking time away from work or do they leave this decision to employees?*

Formal work/life balance policies have become more ubiquitous as organizations have developed such policies on their own or have developed such policies in response to the need to present the organization as one that cares about its employees. However, only 23% of respondents stated their organization has a formal work/life balance policy with 76% of organizations that did not. All usable cases (n=305) were included in the analysis of the formal work/life balance policy question, indicating that the percentages above were likely representative of the respondent organizations. The low number of respondent

organizations having a formal work/life balance policy in place was somewhat surprising, however, given that the majority of organizations had between 1-499 employees it is possible that work arrangements are less formalized in terms of hours worked balanced against need in smaller organizations that have less resources.

Elements contained in formal work/life balance policies primarily reflected that the largest number of respondent organizations utilize a combination of elements:

1. Employees should refrain from working during vacation and sick time as well refrain from as limiting the number of hours per week worked (44%) and
2. Employees are encouraged to refrain from working during vacation time as well as refrain from working over a specified number of hours per week (40%).

Data reported from respondent organizations seems to suggest that organizations who have formal work/life balance polices encourage their employees to refrain from working while on vacation or out sick. Additionally, the data seems to suggest that these respondent organizations encourage their employees to refrain from working over a specified number of hours per week. Qualitative data suggested that flexible work arrangements (e.g. telecommuting or varied work schedules) support organizations' commitment to a positive work/life balance. Some qualitative responses seem to indicate that concerns regarding overtime were communicated via formal work/life balance policies in line with organizational PTO policies.

Research Question: Informal Work/Life Balance Policies. *Do organizations have informal policies (e.g. management practices) demonstrating organizational commitment to the importance of employees taking time away from work or do they leave*

this decision to employees?

Regarding informal work/life balance polices that demonstrate organizational commitment to the importance of employees taking time away from work to recharge, 52% of respondents indicated their organization had such a policy and 46% stated their organization did not have a policy. The margin of differences between organizations who have informal work/life policies and those who did not was small and seems to suggest that informal work/life balance policies, as they pertain to respondent organizations in this study, are not overwhelmingly important.

Respondents were given the same choices of policy elements as in the formal work/life balance policy questions and where single elements were selected, not working over a specified number of hours was most often selected as was reported in the data for formal work/life balance policies. The largest number of n=75 respondents selected a combination of elements with refraining from working during vacation or sick time representing the most frequently selected combination (44%). The qualitative data seems to reinforce that n=75 respondent organizations who have informal work/life balance policies are concerned about employees not working during vacation and sick time, as well as being concerned with employees taking time off to recharge outside of work.

Communication methods in the form of management practices utilized to encourage employees to take time away from work to recharge reflected that respondent organizations rely upon supervisors/managers to encourage healthy work/life balance within their unit/work group. All respondents selected management practices that relied upon supervisors and managers to communicate to their employees the importance of taking time away from work.

The data seems to suggest the importance of managerial discretion in communicating and reinforcing both formal and informal work/life balance policies that encourage employees to take time away from work to recharge. The data also seems to reflect the importance of supervisors/managers being aware of and sensitive to work/life balance issues, particularly as they are largely responsible for communicating and reinforcing these policies by direct contact with employees. Not surprisingly, there were no respondents that indicated that their organization observes days or times when email is not used (e.g. "No email weekends" or "No email Fridays"). The qualitative data reflected one respondent organization that observes formal "no meeting" times. Qualitative data also reflected reliance upon formalized PTO or vacation/sick policies in place.

When asked if organizations communicate to employees to limit the usage of ICTs or leave the decision to the employee, 80% of n=120 respondents stated the decision was left to employee discretion. Further, 60% of n=15 respondent stated their organization makes a distinction between company-provided and personally owned ICTs for usage outside of working hours. The findings seem to suggest that employees have a great deal of discretion as to whether they use company-provided or personally owned ICTs. The findings also reflect that employees are seemingly given a great deal of latitude in deciding when to utilize those devices for work purposes during non-working hours.

Research Question: Likelihood of ICT Policy Adoption. *Absent existing formal and informal policies regarding employees' non-working hours' usage of organizationally-provided ICTs, what is the likelihood they will adopt a policy within 1-3*

years?

A total of 32% of n=120 respondents stated the adoption of a formal or informal ICT policy regarding work-related employee ICT usage was likely to some degree (24% somewhat likely, 8% very likely). Fifty-one percent stated policy development was not likely. Of interest was the group of respondents who stated they were unsure (17%) as this group of respondents could have responded in either direction on the scale. Given that the individual respondents represented those who were involved in policy formation both at the corporate and local levels, for a variety of industry types, the respondents would likely have been aware of efforts to develop ICT policies.

The data seems to suggest that respondents' selections would be tuned in to ICT policy formation efforts, even at the earliest stages. It is unclear whether or not the group who stated they were unsure may or may not know how organizational leaders would decide in the future with regard to ICT polices as it is possible that organizational leaders may not have made a decision at the time this research was conducted. It is also possible that organizational leaders may be compelled in one direction or another if the organization experiences a particular internal or external influence that makes addressing ICT policy a priority.

Research Question: Likelihood of ICT Policy Development. *If organizations are likely to adopt formal or informal policies regarding employees' non-working hours' usage of organizationally-provided ICTs, what is the likelihood they will adopt such a policy within 1-3 years?*

The rationale to develop or not develop a policy is eluded to in the discussion of research question five: internal and/or external forces or events drive the need (or lack

thereof) for a particular type of policy. Rationale cited for pro-policy development reflected anticipated concerns for work life balance (e.g. recharge during non-working hours, work/life balance concerns) as reported by 21% of n=100 respondents. Interestingly, 22% selected the single choice of safety and security of organizational information and/or data. Combinations of choices represented 46% of the responses with recharging and work/life balance concerns, as well as safety and security, reported by 48% of n=46 respondents. The Fair Labor Standards Act (Wage & Hour laws) was cited by several respondents in qualitative data as being another reason for policy development. Given that the respondents were HRM professionals, it was not surprising that Wage & Hour laws were a stated concern as there had been recent modifications of compliance requirements in this area at the time this study was conducted. Wage & Hour compliance, while primarily an HRM concern, also affects supervisors and managers who might generally ask employees to work overtime or longer hours and if those employees are non-exempt (i.e. hourly) there could be overtime implications from a payroll standpoint. Hourly overtime could also conceivably affect department or unit budgets as hourly employee pay is a dynamic variable as opposed to non-hourly employee pay, which is static.

The rationale to refrain from developing an ICT policy yielded 21% (24 of n=114) who selected a response of "not important enough to address". Similarly, a total of 18 respondents (16%) chose single reasons that indicated an ICT policy was not necessary. Somewhat ambiguously, 11% of n=114 respondents stated that employees generally self-regulate their behavior which could mean that there is no need for a policy because ICTs are used or the responses could indicate that the organization is aware that

ICTs are utilized by employees for work purposes outside of working-hours but has no formal knowledge or reason to be concerned with such activity.

Combinations of choices of rationales for not developing an ICT policy were chosen by 56% (53 of n=114) respondents with "employees generally self-regulate" and "the issue has not become important enough to address at this time" representing 9 of n=114 (8%) of the choices selected. Similarly, 8 of n=114 (7%) chose a combination of self-regulation, issue not important enough and "the organization does not encourage or otherwise place pressure upon employees to be connected to work outside of their normal workday". Considering the types of industries represented by respondents, the manufacturing sector may arguable have no need for production employees to remain connected to work once their shift is over. Qualitative data, however, appeared to indicate that organizations who are within the service sector anticipate that employees will work when they need to work. Additionally, qualitative data indicated that only some of the individuals within respondent organizations held positions where connectivity outside of work might be necessary.

Research Question: ICT Policy Development Framework. *Based upon the data collected from this study and the information reflected in the literature, what elements should be included in an organizational policy regarding employees' non-working hours' usage of organizationally-provided ICTs?*

Based upon data analyses, a suggested framework for a best practices model for ICT policy development could include:

- A determination of the positions within the organization that should have ICT connectivity for work purposes during non-working hours.

- A determination of whether a formal policy is required, or, whether or not the issue could be addressed through supervisor and manager contact with employees.
- A determination of what the best method of communication would be for a particular organization, given the type of industry and geographic distribution of locations that make up the organization. Ascertaining the ration of exempt to non-exempt of employees within the organization could provide further insight.
- Identification of the risks associated with employee ICT connectivity including safety and security of data/information as well as an assessment of how those risks are best mitigated
- A needs analysis that would determine what training, if any, might be required in connection with a formal/informal ICT policy and/or work/life balance policy
- If formal/informal work/life balance policies exist, it would be important to determine whether or not policies are being uniformly communicated throughout the organization and across locations.
- What, if any, influences an ICT policy might have upon the health of workers who could be constantly connected to work outside of working hours. Are these influences important enough for organizations to address?
- An assessment of the importance of the issue to the organization such that ICT policies may not be of great importance in the temporal view but the importance level may change due to internal or external dynamics that may necessitate such a policy in the future (e.g. expansion of business, individual privacy concerns, acquisition of new location(s), anticipated security risks). Identification of

dynamics could provide insight as to how organizations can prepare for such changes.

Implications

The discipline of technology management focuses upon merging science and engineering with business administration to form the interdisciplinary area of the management of technology. Science and engineering work together in the management of technology through vehicles such as product R&D, process engineering and production environments. Included within this realm are the information and communication technologies (ICTs) that shape today's work environments as we know them.

Business administration incorporates a different type of discipline-based knowledge that includes accounting, finance, management, marketing, economics, business law and general managerial applications. Summarily, the management of technology involves an array of sub-disciplines including strategy, policy, innovations, technological change, entrepreneurship, forecasting, technology transfer, risk analysis/mitigation, economic analysis, social issues, cross-cultural concerns, training/education, quality/productivity and environmental sustainability.

Technology management with a specific focus on organization development has fostered a key point of focus in terms of organizational strategy. For organizations, success revolves around the people who leverage the technology. In other words: without the asset of human capital, organizations would lose the ability to compete in a global market that demands business takes place at the speed of technological advances. In order to meet the demands of customers and retain market share, organizations must consume human capital through technological means while managing change on all fronts.

The needs of particular organizations can vary widely and some organizations may be more likely to require that their employees be connected to work during non-working hours than others. Identifying the full spectrum of issues and risks associated with employee ICT use requires an interdisciplinary understanding of functions throughout the organization as well as an understanding of what specific job requirements might be.

Regularly assessing existing policies and making modifications as necessary is already well-documented in the scholarly and professional literature as being a best practice. Additionally, regularly scanning the internal and external environments for influences that may become important in the future is a well-documented best practice. Within the context of the instant research, understanding how and when employees utilize ICTs for work purposes outside of work will provide the basis for policy formation. The framework for best practices in developing an ICT policy provides a roadmap for organizations and professionals to identify issues that may not be easily identifiable without digging deeper into the culture of the organization, including how the organization regularly functions and how those functions may change.

A well-crafted policy that has addressed all possible dynamics of an issue can be a benefit to an organization in communicating job expectations to employees. Ambiguity in a policy, regardless of whether the policy is formal or informal, can create legal and/or compliance issues whereas foresight and exhaustive research might have prevented costly errors and misunderstandings between employees and employers.

Recommendations for Future Research

Because this study was largely exploratory in nature, it was not known whether or not ICT policies existed within organizations, either formally or informally. The extant literature had not yet addressed the issue of non-working hours' usage of ICTs by employees and therefore causal and comparative relationships could not be hypothesized. However, in future research the following recommendations could be addressed:

1. Compare sizes and types of organizations with existing formal and/or informal ICT policies to determine if size and type of organization is significant.
2. Compare elements of formal and informal ICT policies with work/life balance policies to determine if there is homogeneity or duplication between policies.
3. Compare methods of communication for formal and informal ICT policies to determine training opportunities for supervisors and managers.
4. Expand the Likert-type scale for the likelihood of adoption of ICT policies and compare business sizes to determine if there is a higher probability that larger, more geographically distributed organizations would be more likely to adopt ICT policies.
5. Compare formal and informal policies that reflect organizational concern for work/life balance policies (such as an ICT policy) with the size of organization and the type of industry to determine if there is a relationship.
6. Collapse rationales for not adopting an ICT policy to reflect a combination of all of the categorical responses indicating such as policy is not necessary.
7. Review case law and workplace trends to determine if new influences should be considered and include those influence dynamics in future research.

8. Send pre-survey notifications to stimulate interest in the study. “The pre-notification to potential respondents plays a particularly critical role because potential respondents’ decision about logging in the web survey web site is largely based on the information provided by the initial contacts” (Fan & Yan, 2010, p. 137).
9. The design of the study could be enhanced by conducting a modified-Delphi to delve deeper into organizational policy regarding ICTs from the perspective that the absence of control of non-working usage of ICTs by employees could be theorized to constitute de facto control by the organization. This is to say that if organizations are willing to accept that employees are connected 24/7 and provide and/or subsidize the devices then perhaps the antithesis of control (no policies against it) should be explored as a means of control (de facto).
10. Qualitatively, further research could explore the interdisciplinary aspects of organizational policy formation as it relates to technology. Many parts of an organization participate in the development, formation and implementation of organizational policies regarding technology. Conducting focus groups of individuals involved in ICT policy formation could provide additional depth to the interdisciplinary aspects of the study.

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APPENDIX A: CERTIFICATION REQUIREMENTS

Human Resource Certification Institute, 2011

The Senior Professional in Human Resources (SPHR®) certification is designed for the HR professional who:

- designs and plans, rather than implements, HR policy
- focuses on the "big picture"
- has ultimate accountability in the HR department
- typically has six to eight years of progressive and increasingly complicated HR experience
- has breadth and depth of knowledge in all HR disciplines
- uses judgment gained with time and knowledge application
- understands the business beyond the HR function and influences the overall organization

The SPHR exam is divided into six functional areas:

- Strategic Management (29%)
- Workforce Planning and Employment (17%)
- Human Resource Development (17%)
- Total Rewards (12%)
- Employee and Labor Relations (18%)
- Risk Management (7%)

The exam has 225 multiple-choice questions and is 4 hours long.

Eligibility Requirements

- 4 years of demonstrated professional HR experience with a Master's degree or higher;
- 5 years of demonstrated professional HR experience with a Bachelor's degree;
- 7 years of demonstrated professional HR experience with less than a Bachelor's degree.

The Global Professional in Human Resources (GPHR®) certification is designed for the HR professional who

- has HR responsibilities that cross national borders
- understands the strategies of globalization versus localization of HR policies and programs
- establishes HR policies and initiatives that support the organization's global growth and employer reputation
- designs organizational programs, processes and tools to achieve worldwide business goals
- develops, implements, and evaluates programs, processes and tools
- ensures that programs, processes, and tools align with competitive practice, the organization's objectives, and legal requirements
- oversees practices that balance employer needs with employee rights and needs
- has core knowledge of the organization's international HR activities

The GPHR exam is divided into five functional areas:

- Strategic HR Management (26%)
- Global Talent Acquisition and Mobility (22%)
- Global Compensation and Benefits (18%)
- Organizational Effectiveness and Talent Development (22%)
- Workforce Relations and Risk Management (12%)
- 165 multiple-choice questions

Eligibility requirements:

- 2 years of demonstrated global professional HR experience with a Master's degree or higher;
- 3 years of demonstrated professional HR experience (with 2 of the 3 being global HR experience) with a Bachelor's degree;
- 4 years of demonstrated professional HR experience (with 2 of the 4 being global HR experience) with less than a Bachelor's degree.

The exam contains 165 multiple-choice questions and is 3 hours long.

APPENDIX B: SURVEY

Technology and Its Impact on Employees During Non-Working Hours

The Society for Human Resource Management (SHRM), in collaboration with Colrain M. Zuppo, a researcher from Indiana State University, is conducting a CONFIDENTIAL workplace research survey on the use of technology and its impact on employees during non-working hours. Your participation in this research survey is voluntary. You may skip any questions that you do not wish to answer and there is no penalty or loss of benefit should you choose to not participate.
Your responses to this survey will be kept strictly confidential. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form. Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than June 24, 2011. This survey should take no longer than 10 minutes to complete.

DEFINITION: For the purposes of this survey, Information and Communication Technologies (ICTs) refer to wireless communication technologies. Examples include: cell phones, smart phones (e.g. Blackberry, iPhone, Android, etc.), tablets (e.g., iPad, Archos, PlayBook, etc.) and similar communication devices. This survey focuses on the use of ICTs by employees during non-working hours to check/respond to work-related emails, voicemails, chats, texts, etc.

Please click NEXT to continue.

---

1. By completing and submitting the survey you are indicating your consent to participate in this research study.

   __ I agree to participate
   __ I do not agree to participate in this survey

2. Certification

	Yes	No
Are you currently certified as a Senior Professional in Human Resources by HRCI?		
Are you currently certified as a Global Professional in Human Resources by HRCI?		
Is your current position one that facilitates your involvement in human resources policy development and implementation?		

3. Does your organization have a formal policy (i.e., written) that limits employees' usage of ICTs (cell phones, smart phones such as Blackberry, etc., tablets such as iPad, etc.) during non-working hours for work purposes?
   __ Yes
   __ No
   __Not sure

4.

	Yes	No
Does the policy only apply to company-provided/reimbursed ICTs?		
Does the policy mention an organizational concern for work/life balance issues (e.g. limiting the amount of time employees are connected to work during non-working hours)?		

5. Does your organization have informal policies (i.e. managerial practices) that encourage employees to limit their non-working hours' usage of ICTs for work purposes?
   __Yes
   __ No
   __ Not Sure

6. Please indicate the ways in which informal policies are communicated? (check all that apply)
   __ General word of mouth
   __ Supervisor/manager communication directly with employee
   __ At the departmental or unit level
   __ Other (please specify):_____

7.

	Yes	No
Do informal policies only apply to company-provided/reimbursed ICTs?		
Do informal policies apply when employees use their personal ICTs for work?		

8. Does your organization have a formal (i.e., written) work/life balance policy that encourages flexibility, reinforces the importance of employees taking time away from work, etc.)
   __ Yes
   __ No
   __ Not Sure

9. Please indicate the elements included in your formal work/life policy: (check all that apply)
   __ Working during sick time
   __ Working over a specified number of hours per week in the office or away from the office for both exempt and non-exempt employees
   __ Working during vacation time
   __ Other (please specify): _____

10. Does your organization have an informal (e.g. management practices) work/life balance policy demonstrating organizational commitment to the importance of employees taking time away from work to recharge?
    __ Yes
    __ No
    __ Not Sure

11. Please indicate the elements included in your informal work/life policy:
    __ Working during vacation time
    __ Working during sick time
    __ Working over a specified number of hours per week at the office or remotely (exempt and non-exempt)
    __ Other (please specify): _____

12. Which of the following management practices are utilized to encourage employees to take time away from work to recharge? (Check all that apply.)
    __ Supervisors/managers encourage a healthy work/life balance within their unit/work group
    __ Supervisor s/managers encourage employees to ask for help when necessary (e.g., when employee finds that he/she is needing to work beyond specified work hours)
    __ Supervisors/managers discourage employees from answering emails or phone calls via their ICTs during non-working hours (e.g., weekends, evenings, holidays, etc.)
    __ The organization has days or times when email is not used ("Email Free Fridays", "No email weekends")
    __ Other (please specify) _____

13. Does your organization communicate in any way to employees that they should limit their use of ICTs during non-working hours for work purposes, or is that decision left to employees?
    __ The organization communicates to employees to limit the usage of ICTs during non-working hours for work purposes.
    __ The decision to limit the usage of ICTs during non-working hours for work purposes is left to employees.
    __ Not sure

14. Does your organization distinguish between company-provided/reimbursed ICTs and personally-owned ICTs concerning non-working hours' usage for work purposes?
    __ Yes
    __ No

15. Within the next 1-3 years, what is the likelihood a formal or informal ICT policy regarding work-related employee usage of ICTs during non-work hours will be adopted by your organization?
    __ Very likely
    __ Somewhat likely
    __ Not likely
    __ Not sure

16. What are the reasons for the development and implementation of such a policy? (check all that apply)
    __ Work/life balance concerns
    __ To encourage employees to recharge during non-working hours so they will be at their best during working hours
    __ Safety/security of organizational information/data
    __ Other (please specify): _____

17. What are the reasons such a policy would not be considered? (check all that apply)
    __ Employees' usage of ICTs during non-working hours (for work purposes) is not a concern.
    __ There are no employees in the organization who utilize company provided/reimbursed ICTs in connection with their work.
    __ Our organization has no need for employees to be connected to their work 24/7 (e.g. no globalized or multi-shift operation).
    __ Employees generally self-regulate their behavior.
    __ The organization does not encourage or otherwise place pressure upon employees to be connected to work outside of their normal workday.
    __ The issue has not become important enough to address at this time.

18. Does your organization have U.S. based operation (i.e., business units) only or does it operate multinationally?
    __ U.S. based operations only
    __ Multinational operations

19. Definitions:

    Single-unit company: Companies in which the location and the company are one and the same.

    Multi-unit company: Companies which have more than one location.

    In the U.S., is your organization a single-unit company or a multi-unit company?
    __ Single-unit company
    __ Multi-unit company

20. In general, are your HR policies and practices determined by the multi-unit corporate headquarters, by each work location, or a combination of both?
    __ Multi-unit corporate headquarters
    __ Each location
    __ A combination of both

21. Please check the level of HR department/function for which you responded throughout this survey:
    __ Corporate (company-wide)
    __ Business unit-division
    __ Facility/location

22. Approximately how many people are employed by your organization, full time and part time, at your work location? _____

23. Including employees at your location, approximately how many people are employed by your organization, full time and part time, at all the multi-unit locations in the U.S.? (If your organization has multiple locations in the U.S., this number should include the employees at your location but be larger than that number.) _____

24. Including all employees within the U.S., how many people are employed by your organization (including your location), full time and part time, throughout the world? (If your organization has employees outside of the U.S., the total number of employees throughout the world should include the number of employees in the U.S. but be larger than that number.) _____

25. If you are unsure of the number of employees your organization has at various regional locations, please enter the TOTAL number of your organization's employees (full time and part time total) across all locations. _____

26. Please provide a brief description of your organization's industry or business activity. You must provide a response even if it is just one word (e.g., bank) _____

27. Confirm the category or categories which best describe your main industry (check all that apply)

    __ Accommodation and Food Services
    __ Administrative and Support and Waste Management and Remediation Services
    __ Agriculture, Forestry, Fishing and Hunting
    __ Arts, Entertainment, and Recreation
    __ Construction
    __ Education Services
    __ Finance and Insurance
    __ Health Care and Social Assistance
    __ Information
    __ Management of Companies and Enterprises
    __ Manufacturing

__ Mining
__ Personal and Laundry Services
__ Private Households
__ Professional, Scientific, and Technical Services
__ Public Administration
__ Real Estate and Rental and Leasing
__ Religious, Grantmaking, Civic, Professional, and Similar Organizations
__ Repair and Maintenance
__ Retail Trade
__ Transportation and Warehousing
__ Utilities
__ Wholesale Trade
__ Other Services except Public Administration

28. Which of the following best describes your organization? (Select only one)
__ Publicly owned for-profit
__ Privately owned for-profit
__ Nonprofit organization
__ Government agency
__ Other (please specify): _____

29. What is the zip code at your work location? _____

APPENDIX C: SURVEY QUESTIONS WITH SKIP LOGIC

0. Do you agree to participate in this research?

1. Are you currently certified as a Senior Professional in Human Resources by HRCI?

2. Are you currently certified as a Global Professional in Human Resources by HRCI?

3. Is your current position one that facilitates your involvement in organizational policy development and implementation?

4. Does your organization have a formal policy that limits employees' work-related usage of ICTs during non-working hours?

If no, skip to question 7.

If yes, continue to question 5.

5. Does the policy only apply to company-provided/subsidized (i.e. reimbursed) ICTs?

6. Does the policy mention an organizational concern for work/life balance issues (e.g. limiting the amount of time employees are connected to work during non-working hours)?

7. Does your organization have informal policies (i.e. managerial practices) that encourage employees to limit the time they are connected to work through ICTs during non-working hours?

If no, skip to question 11.

If yes, continue to question 8.

8. How are those informal policies communicated?

9. Do informal policies only apply to ICTs that are organizationally provided/subsidized?

10. Do informal policies apply to personal ICTs used for work?

11. Does your organization have a formal policy stating the importance of employees taking time away from work to recharge?

If no, skip to question 13.

If yes, continue to question 12.

12. Elements of formal ICT policy (check all that apply)

13. Does your organization have an informal policy (e.g. management practices) demonstrating organizational commitment to the importance of employees taking time away from work to recharge?

If no, skip to question 16.

If yes, continue to question 14.

14. Does the policy address (check all that apply)

15. How are management practices utilized to encourage employees to recharge during non-working hours? (check all that apply)

16. Is the decision to limit non-working hours' usage of ICTs (for work purposes) left to employees?

17. Does your organization distinguish between organizationally provided/subsidized ICTs and personally-owned ICTs when it comes to work related usage during non-working hours?

18. What is the likelihood an ICT policy addressing employees' usage of ICTs during non-working hours (for work purposes) will be adopted within 1-3 years?

19. What are the reasons for the development and implementation of such a policy? (check all that apply)

20. What are the reasons such a policy would not be considered? (check all that apply)

Proceed to detailed demographic questions.

APPENDIX D: SURVEY INVITATION LETTER

Email Subject Line: Please Participate in a SHRM Survey: Deadline - XXXX

Survey Invitation Email:

Dear SHRM Member:

It is with enthusiasm that we invite you to participate in a confidential workplace research survey conducted by the Society for Human Resource Management (SHRM). Your responses to this survey will be kept strictly confidential and participation in the research survey is entirely voluntary. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form.

SHRM is conducting this study in collaboration with Colrain M. Zuppo, a researcher from Indiana State University. This survey is designed to gain your input about organizational policies relating to Information and Communication Technologies (ICTs). Data from this survey will be made available to all SHRM members at no fee. In addition, this research will advance HR academic literature and help bridge the gap between academic research and HR practices.

If you have questions or concerns about this study, please contact either the SHRM Survey Research Center by telephone at (703) 535-6301 (email: surveys@shrm.org) or researcher Colrain M. Zuppo by telephone at (614) 216-5751 (email:czuppo@indstate.edu).

How will you benefit by participating?

> - If you are certified through HRCI, you can earn up to 21 PHR or SPHR recertification credits by incorporating data from SHRM survey reports in your work setting or job responsibilities. To find out more information on how to use SHRM surveys to fulfill the on-the-job experience and leadership recertification credits, go to:
>
> http://www.hrci.org/recertification/recertce/

The survey will take approximately 10 minutes to complete.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than [day of the week][month day, 2011].

Please respond to this survey by selecting the link below:

[link]

Thank you in advance for your support with this important initiative.

P. 2 C. Zuppo and SHRM, 5/25/11

The Society for Human Resource Management (SHRM) is the world's largest professional association devoted to human resource management. Our mission is to serve the needs of HR professionals by providing the most current and comprehensive resources, and to advance the profession by promoting HR's essential, strategic role. Founded in 1948, SHRM represents more than 250,000 individual members in over 125 countries, and has a network of more than 575 affiliated chapters in the United States, as well as offices in China and India.

UNSUBCRIBE – To stop receiving invites to this survey, please reply to this email and write "unsubscribe" in the body of the email.

PRIVACY STATEMENT - The e-mail addresses that make up this SHRM survey distribution list are confidential; SHRM does not furnish these addresses to advertisers or sponsors, nor does it use this distribution list for any purpose other than generating response to this survey.

QUESTIONS - If you have questions regarding this e-mail invitation, please contact the SHRM Survey Research Center at 703-535-6301 or by e-mail at surveys@shrm.org. For general inquiries, contact SHRM at 1-800-283-7476 or by e-mail at shrm@shrm.org.

SHRM
1800 Duke Street
Alexandria, VA 22314 USA

APPENDIX E: SURVEY REMINDER 1

Subject Line: Please Participate in a SHRM Survey: Deadline - 6/22/2011

Dear SHRM Member,

It is with enthusiasm that we invite you to participate in a confidential workplace research survey conducted by the Society for Human Resource Management (SHRM). Your responses to this survey will be kept strictly confidential and participation in the research survey is entirely voluntary. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form.

SHRM is conducting this study in collaboration with a researcher from Indiana State University. This survey is designed to gain your input about organizational policies relating to Information and Communication Technologies (ICTs). Data from this survey will be made available to all SHRM members at no fee. In addition, this research will advance HR academic literature and help bridge the gap between academic research and HR practices.

If you have questions or concerns about this study, please contact either the SHRM Survey Research Center by telephone at (703) 535-6301 (email: surveys5@shrm.org) or researcher Colrain M. Zuppo by telephone at (614) 216-5751 (email:czuppo@indstate.edu). If you have concerns about your rights as a participant, contact the Chair of Indiana State University's Institutional Review Board (which is responsible for the protection of study participants) at IRB-ISU@indstate.edu, (812) 237-8217, Indiana State University IRB, Erickson Hall Rm. 511, Terre Haute, IN 47809.

How will you benefit by participating?
- If you are certified through HRCI, you can earn up to 21 PHR or SPHR recertification credits by incorporating data from SHRM survey reports in your work setting or job responsibilities. To find out more information on how to use SHRM surveys to fulfill the on-the-job experience and leadership recertification credits, go to: http://www.hrci.org/recertification/recertce/

The survey will take approximately **10 minutes** to complete.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than **Wednesday, June 22, 2011.**

Please respond to this survey by selecting the link below:
{SurveyURL}

Thank you in advance for your support with this important initiative.

Sincerely,
Rob Boyd
Survey Research Analyst
SHRM Research
The Society for Human Resource Management (SHRM) is the world's largest professional association devoted to human resource management. Our mission is to serve the needs of HR professionals by providing the most current and comprehensive resources, and to advance the profession by promoting HR's essential, strategic role. Founded in 1948, SHRM represents more than 250,000 individual members in over 125 countries, and has a network of more than 575 affiliated chapters in the United States, as well as offices in China and India .

UNSUBCRIBE – To stop receiving invites to this survey, please reply to this email and write "unsubscribe" in the body of the email.

PRIVACY STATEMENT - The e-mail addresses that make up this SHRM survey distribution list are confidential; SHRM does not furnish these addresses to advertisers or sponsors, nor does it use this distribution list for any purpose other than generating response to this survey.

QUESTIONS - If you have questions regarding this e-mail invitation, please contact the SHRM Survey Research Center at 703-535-6301 or by e-mail at surveys5@shrm.org. For general inquiries, contact SHRM at 1-800-283-7476 or by e-mail at shrm@shrm.org.

SHRM
1800 Duke Street
Alexandria, VA 22314 USA

APPENDIX F: SURVEY REMINDER 2

Subject Line: Please Participate in a SHRM Survey: Deadline - 6/22/2011

Dear SHRM Member,

It is with enthusiasm that we invite you to participate in a confidential workplace research survey conducted by the Society for Human Resource Management (SHRM). Your responses to this survey will be kept strictly confidential and participation in the research survey is entirely voluntary. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form.

SHRM is conducting this study in collaboration with a researcher from Indiana State University. This survey is designed to gain your input about organizational policies relating to Information and Communication Technologies (ICTs). Data from this survey will be made available to all SHRM members at no fee. In addition, this research will advance HR academic literature and help bridge the gap between academic research and HR practices.

If you have questions or concerns about this study, please contact either the SHRM Survey Research Center by telephone at (703) 535-6301 (email: surveys5@shrm.org) or researcher Colrain M. Zuppo by telephone at (614) 216-5751 (email:czuppo@indstate.edu). If you have concerns about your rights as a participant, contact the Chair of Indiana State University's Institutional Review Board (which is responsible for the protection of study participants) at IRB-ISU@indstate.edu, (812) 237-8217, Indiana State University IRB, Erickson Hall Rm. 511, Terre Haute, IN 47809.

How will you benefit by participating?
- If you are certified through HRCI, you can earn up to 21 PHR or SPHR recertification credits by incorporating data from SHRM survey reports in your work setting or job responsibilities. To find out more information on how to use SHRM surveys to fulfill the on-the-job experience and leadership recertification credits, go to: http://www.hrci.org/recertification/recertce/

The survey will take approximately **10 minutes** to complete.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than **Wednesday, June 22, 2011.**

Please respond to this survey by selecting the link below:
{SurveyURL}

Thank you in advance for your support with this important initiative.

Sincerely,
Rob Boyd
Survey Research Analyst
SHRM Research
The Society for Human Resource Management (SHRM) is the world's largest professional association devoted to human resource management. Our mission is to serve the needs of HR professionals by providing the most current and comprehensive resources, and to advance the profession by promoting HR's essential, strategic role. Founded in 1948, SHRM represents more than 250,000 individual members in over 125 countries, and has a network of more than 575 affiliated chapters in the United States, as well as offices in China and India .

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1800 Duke Street
Alexandria, VA 22314 USA

APPENDIX G: SURVEY REMINDER 3

Subject Line: Reminder to participate in a SHRM Survey: Deadline - 6/22/2011

Dear SHRM Member,

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The survey will take approximately **10 minutes** to complete.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than **Wednesday, June 22, 2011.**

Please respond to this survey by selecting the link below:
{SurveyURL}

Thank you in advance for your support with this important initiative.

Sincerely,

Rob Boyd
Survey Research Analyst
SHRM Research

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APPENDIX H: SURVEY REMINDER 4

Subject Line: Don't Forget to Participate in our SHRM Survey: Deadline is Today

Dear SHRM Member,

It is with enthusiasm that we invite you to participate in a confidential workplace research survey conducted by the Society for Human Resource Management (SHRM). Your responses to this survey will be kept strictly confidential and participation in the research survey is entirely voluntary. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form.

SHRM is conducting this study in collaboration with a researcher from Indiana State University. This survey is designed to gain your input about organizational policies relating to Information and Communication Technologies (ICTs). Data from this survey will be made available to all SHRM members at no fee. In addition, this research will advance HR academic literature and help bridge the gap between academic research and HR practices.

If you have questions or concerns about this study, please contact either the SHRM Survey Research Center by telephone at (703) 535-6301 (email: surveys5@shrm.org) or researcher Colrain M. Zuppo by telephone at (614) 216-5751 (email:czuppo@indstate.edu). If you have concerns about your rights as a participant, contact the Chair of Indiana State University's Institutional Review Board (which is responsible for the protection of study participants) at IRB-ISU@indstate.edu, (812) 237-8217, Indiana State University IRB, Erickson Hall Rm. 511, Terre Haute, IN 47809.

How will you benefit by participating?
- If you are certified through HRCI, you can earn up to 21 PHR or SPHR recertification credits by incorporating data from SHRM survey reports in your work setting or job responsibilities. To find out more information on how to use SHRM surveys to fulfill the on-the-job experience and leadership recertification credits, go to: http://www.hrci.org/recertification/recertce/

The survey will take approximately **10 minutes** to complete and **Today** is our deadline.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey no later than **Today.**

Please respond to this survey by selecting the link below:
{SurveyURL}

Thank you in advance for your support with this important initiative.
Sincerely,
Rob Boyd
Survey Research Analyst
SHRM Research

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APPENDIX I: FINAL SURVEY REMINDER

Subject Line: Extended deadline to Participate in SHRM Survey: Friday, June 24th

Dear SHRM Member,

So we may increase the number of responses we have **extended the deadline** for you to participate in a confidential workplace research survey conducted by the Society for Human Resource Management (SHRM). Your responses to this survey will be kept strictly confidential and participation in the research survey is entirely voluntary. Responses from all participants will be combined and analyzed, and the findings reported only in their aggregate form.

Participation incentive: by participating you will also be eligible to win a **$10 Starbucks giftcard** which will be awarded to **20 participants** selected the day after the **new extended deadline, Friday, June 24th.**

SHRM is conducting this study in collaboration with a researcher from Indiana State University. This survey is designed to gain your input about organizational policies relating to Information and Communication Technologies (ICTs). Data from this survey will be made available to all SHRM members at no fee. In addition, this research will advance HR academic literature and help bridge the gap between academic research and HR practices.

If you have questions or concerns about this study, please contact either the SHRM Survey Research Center by telephone at (703) 535-6301 (email: surveys5@shrm.org) or researcher Colrain M. Zuppo by telephone at (614) 216-5751 (email:czuppo@indstate.edu). If you have concerns about your rights as a participant, contact the Chair of Indiana State University's Institutional Review Board (which is responsible for the protection of study participants) at IRB-ISU@indstate.edu, (812) 237-8217, Indiana State University IRB, Erickson Hall Rm. 511, Terre Haute, IN 47809.

How will you benefit by participating?
- If you are certified through HRCI, you can earn up to 21 PHR or SPHR recertification credits by incorporating data from SHRM survey reports in your work setting or job responsibilities. To find out more information on how to use SHRM surveys to fulfill the on-the-job experience and leadership recertification credits, go to: http://www.hrci.org/recertification/recertce/

The survey will take approximately **10 minutes** to complete.

Please participate in this survey by answering the following questions and clicking the "submit" button at the end of the survey.

Please respond to this survey by selecting the link below:
{SurveyURL}

Thank you in advance for your support with this important initiative.

Sincerely,

Rob Boyd
Survey Research Analyst
SHRM Research

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