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Assessing the Influence of Smart Mobile Devices on How Employees Work

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Walden University
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Abstract

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MBA, University of Hartford, 1996

BS, Central Connecticut State University, 1992

Dissertation Submitted in Partial Fulfillment

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Management

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Abstract

The smart mobile device market penetration reached 50% and has been increasing an average of 39% per year in the United States. More than 70% of the smart mobile device owners use such devices for personal and work activities. The problem was the lack of management's understanding of the effect smart mobile device use has on how employees work when they are in the office, while traveling, or during the off-hours to improve productivity and customer service. The purpose of this phenomenological study was to understand why, when, and how employees used smart mobile devices. The transformational technology conceptual framework was based on Charan's and Welch's theory that new technologies and how people work is critical to productivity. The sample consisted of 21 anonymous participants from randomly selected mid-level and senior management working for Fortune 1000 companies within the U.S. An open-ended questionnaire was designed for collecting lived experiences from the participants. Data were coded using open and axial techniques to identify themes and patterns to understand the way employees use smart mobile devices. Findings showed that smart mobile devices became an inseparable part of employees' life and created the *always on* culture erasing the boundaries between professional and personal life. Employees perform work and personal activities in the office, while traveling for business or leisure, and during time-off. Implications for social change include helping companies improve the workplace and for employees to improve their productivity through mobile technologies thus potentially developing better products and services for the public.

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Dedication

This dissertation is dedicated to my loving family. To my wife, Margaret K. Gorski for her patience as I was locking myself up in the home office to work on the assignments and the dissertation.

To my wonderful daughter, Joanna M. Gorski, for understanding why dad had to spend hours in front of the computer every day. I have pursued to become a Ph.D. to set an example for you and to emphasize that learning is a never-ending process thus, whatever you learn nobody will be able to take away from you.

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Chapter 1: Introduction to the Study

The invention of the wheel in approximately 5000 BCE greatly enabled body mobility and introduced mechanical solutions that significantly contributed to the quality of human life improvement worldwide. People started transporting many goods efficiently and traveling long distances. Prior to the invention of the wheel, moving goods was limited to how much a person or an animal could carry. Traveling was limited to walking or riding on a back of an animal. Seven thousand years later, the invention of the Internet enabled mind mobility that resulted in allowing people to transport information through computers and various smart mobile devices that link and work together as one global system. The invention of the Internet and rapid advancements in the development of smart electronic devices started an information technology revolution that enables people to communicate virtually from any place, anytime, and from any smart mobile device. Smart mobile devices help people perform personal and work related activities that were not as easy before the development of the smart mobile technology. The Internet availability covers most of the global population giving companies an opportunity to design, develop, and manufacture smart mobile devices (Semer, 2013) for the potential users for personal or work related activities. The rapid decline in the smart mobile device development cost, the mass production of the devices, and frequent device model releases make the technology available and affordable to the general population at all income levels.

The goal of this research was to explore the level of influence the smart mobile devices have on how employees work. Chapter 1 consists of the following sections: the background of the problem, the problem statement, the purpose of the study, the nature of the study, the research questions and hypotheses, the theoretical framework, the assumptions, the limitations, the delimitations, the definitions of the terms, the significance of the study, the sources of information, the social change, and the summary.

Background of the Study

The number of smart mobile devices exceeds the number of people on earth (Sorensen, 2013), and the number of the devices will increase as people acquire multiple devices and as the population increases. Organizations have concluded that usage of smart mobile devices for other than work-related activities is distractive, at the office, and most of the companies implemented policies to limit smart mobile device use at work (Geller, 2013). Regardless of the policies, employees continue using smart mobile devices without paying attention to information security and intellectual property protection risks (Semer, 2013). It costs organizations time and money to recover from the losses when information becomes compromised or when hackers breach corporate systems. Executives and managers continually search for best practices (Anckar & D'Incau, 2002) to protect the corporate systems and intellectual properties because when employee spend time on fixing problems or cannot access needed information it affects their work. Employee effectiveness is one of the competitive advantages that

organizations can capitalize on, but researchers have not measured the level of influence smart mobile devices have on how employees work.

Employees today perform work related activities on their smart mobile devices while they are in the office, traveling, or outside of the business hours regardless of the location providing they have access to the Internet. The culture is always on today (Derks, Duin, Tims, & Bakker, 2015) where employees are expected to be always connected. Customers, managers, and co-workers communicate with one another at their convenient time and expect instant answers and feedback. The information technology revolution has changed the way people live and work today and will keep changing it as the technology improves and more people take advantage of the developed technological solutions. The number of smart mobile devices is growing fast (Sorensen, 2013), and it will increase significantly with the introduction of smaller and wearable smart mobile devices to help people perform personal and work related activities as well as to stay connected with others throughout the world. The broad acceptance of the smart mobile device technology that is rapidly extending into automation and artificial intelligence will greatly contribute to the usage of such devices and always become connected population (Derks et al., 2015).

The Internet availability covers most of the global population allowing instant connections with others and access to available services and information. When people gain access to the Internet, they not only connect with their relatives and friends but also can participate in the global economy that today does not have physical boundaries.

Smart mobile devices allow for instant connections between businesses and customers enabling the flow of information at any time and from any place where the Internet service is available. Genova (2010) researched the smart mobile device use expectation and concluded that 42% of the survey participants believed that their bosses expect them to use such devices after hours and during the time off. Also, colleagues and supervisors are forming a new social norm to be available electronically after hours (Derks et al., 2015). Additionally, smart mobile devices are capable of communicating with other devices and systems delivering information and alerts to the users automatically. When information reaches the intended destination, users tend to view it or respond to it immediately or as soon as physically possible. With the significant advancement of the voice-enabled commands, accessing the information and responding to it becomes much easier than when people had to read the information and physically type the response on the device. Manufacturers of smart mobile devices are competing for larger market share to increase their revenue and often release new models and improved devices frequently. When people see the benefits of getting a new smart mobile device, they are willing to replace their older device even though their old device is still well performing.

The invention and advancement of the smart mobile technology are transformational and have fundamentally changed how people live and work today. In the next few decades, the rapid growth of smart mobile devices will spread into all aspects of people's personal and professional lives blending the boundaries between work and time off that we know today. Living in the always-connected mode (Derks et al., 2015) allows

people to perform work-related and personal activities despite the time of the day and the location.

The rapid development of global networks contributed to smart mobile device popularity and broad acceptance. The ease of use of smart mobile devices that are becoming intuitive increases the acceptance level significantly. At the same time, smart mobile devices are becoming increasingly distractive and organizations have implemented rules and policies (Ivarsson & Larsson, 2011) to provide instructions how to use smart mobile devices at schools, work, and during the personal time. Geller (2013) discussed the negative trends smart mobile devices have at schools. Students in classrooms are distracted by incoming text messages, emails, or by web browsing activities. Geller further stated that some students use smart mobile devices to cheat on tests and quizzes. Employees use smart mobile devices for personal (Ivarsson & Larsson, 2011) and work-related activities each day (Gruman, 2012) not paying much attention to information security and intellectual property protection. Companies are exposed to intellectual property breach risk (Genova, 2010) and trade secrets leakage to the competitors. Employees store sensitive, and proprietary information on their smart mobile devices (Genova, 2010) or in other data storage areas that others could access remotely. When hackers compromise such devices, employee work may be negatively affected. Semer (2013) advocated that people use smart mobile devices recklessly increasing the risk of cyber-crimes, proprietary information leakage, and intellectual property compromise that result in employee additional time and corporate money spent

later to recover from the losses. Once proprietary or personal information is exposed, it is extremely difficult to fix the damage to personal or organizational reputation.

Efficient and proactive management is critical to organization success (Morgan, 2006). Managers need to be able to assess quickly any business-related situation to make decisions that help transform organizations into powerful and competitive companies. The new smart mobile device technology is gaining popularity and is very promising but not as well understood today as desktop computers or laptops that had to be wired to the Internet in the past. Sorensen (2013) looked at the statistics of smart mobile devices worldwide and pointed out that there are more than seven billion people in the world, and smart mobile device manufacturing companies are actively fighting for additional market share and revenue often releasing new devices for sale without adequate security test to find later that hackers were able to compromise them. Smart mobile devices are becoming a part of people's lives allowing for constant and continuous, and convenient communication with others. Steinert-Threlkeld (2011) discussed that any time well-respected manufacturers such as Apple or Samsung frequently release new smart mobile device models; people rush to purchase them to take advantage of the advertised new features and capabilities. However, vendors do not discuss the potential challenges the lack of cyber security awareness might create or what issues the users should pay attention to and avoid. The manufacturers and vendors limit their communication of the potential vulnerabilities to what is legally allowable.

People are willing to pay for new and transformational technologies (Steinert-Threlkeld, 2011) in exchange for instant access to information, collaboration with others, and automation, but no scientific study has been performed to measure the influence of such technologies on how employees work. It is becoming a norm that the company information is not only stored in the corporate-designated locations (Genova, 2010) but also on the smart mobile devices employees use or in other personal storage locations allowing employees, with the company permission, access to it at any time and from any place. Thus, it is important to assess the effect of smart mobile devices on how employees work.

Problem Statement

The global survey of 1,500 information technology executives shows that smart mobile devices improve teamwork, creativity, collaboration, and overall productivity at work (Ullman, 2013). The smart mobile device market penetration in the U.S. has reached 50% (Gruman, 2012) and will increase an average by 39% per year ("Growth Rate," 2013) for the next several years. More than 70% of the smart mobile device owners in the U.S. (Gruman, 2012; Steinert-Threlkeld, 2011) use such devices for personal and work related activities regularly (Yun, Kettinger, & Lee, 2012) eliminating the boundaries between work and personal life (Ivarsson & Larsson, 2011). Many employees intuitively use smart mobile devices at any time and from any place for the activities, they feel they need to complete at that time that the employer granted permission for them to perform.

Related literature commonly includes smart mobile device penetration and acceptance topics, total cost of ownership, organizations internal data security concerns (Geller, 2013; Semer, 2013; Ullman, 2013), or the effect of hacking activities have on cost and does not discuss the effect smart mobile devices have on how employees work. The availability of the Internet and the smart mobile device advanced technological capability allow users to select from a variety of mobile applications, stay connected with friends, collaborate with other employees, and use corporate systems at any time and from any place where the network is available. Employees, whether physically in the office or remote locations, are subconsciously switching between work-related and personal activates (Derks et al., 2015) on their smart mobile devices as a part of their regular daily activities. Smart mobile devices are a part of the transformational technology revolution making positive contributions to the social change. Today people can be in touch with virtually anyone, at any time, from any smart mobile device with the Internet connection (Stohl, Myers, & Danis, 2008) or conduct business, monitor their health, perform personal activities, or search the vast Internet library. The problem was the lack of understanding of the effect smart mobile device use has on how employees work when they are in the office, while traveling, or during the off-hours.

Purpose of the Study

Organizations are always searching for ways to improve employee work and efficiency. Excellent companies look for best practices (Brighton, 2002) that could significantly improve their work environment and replicate the practices across all the

related business. Companies invest a significant amount of money and resources in new technologies to provide employees with tools to increase productivity, efficiency, and effectiveness to create competitive advantage. The purpose of this qualitative phenomenological research study was to explore the lived experiences of the influence smart mobile devices have on how employees work.

Research Questions

The smart mobile device growth and wide acceptance throughout the world are changing the way people live and work (Gruman, 2012) in todays always connected (Derks et al., 2015) global business environment. More than 70% of the mobile smart device owners in the U.S. use them regularly for personal and work-related activities (Gruman, 2012; Steinert-Threlkeld, 2011) interchangeably each day. Some companies claim that personal use of smart mobile devices at work is negatively affecting company operations (Ivarsson & Larsson, 2011). Other organizations believe that smart mobile devices positively contribute to employee work (Derks et al., 2015) allowing employees be always connected whether they are at work while traveling or during the off-hours. The goal of this research study was to determine the influence smart mobile devices have on how employees work. The three research questions for this study were as follows:

RQ1: What is the influence of smart mobile devices on how employees work in the office?

RQ2: What is the influence of smart mobile devices on how employees work while traveling?

RQ3: What is the influence of smart mobile devices on how employees work during off-hours?

Conceptual Framework

Research design serves as a roadmap (Franfort-Nachmias & Nachmias, 2008) that guides the researcher through the research process to find solutions or answers to the identified research problem. The conceptual framework of this study related to Charan's (2008) and Welch's (2005) concept that newly available technologies and how people work is critical to productivity (Alley & Gardiner 2012; Gebauer, 2008), effectiveness, and the overall company success. The technology acceptance model (TAM) supports this conceptual framework. Alley and Gardiner (2012) advocated that smaller but significantly advanced smart mobile devices are quickly replacing traditional portable computers that have limited mobile capabilities due to either size, weight, or technical limitations. However, smart mobile devices that Apple Inc., brought mainstream were primarily designed for individuals are not as secure as traditional personal computers that were designed originally for businesses and could be easily compromised. Organizations must educate their employees how to use such devices securely and efficiently to ensure company trade secrets and intellectual property are protected. The new devices come with much larger storage capabilities (Genova, 2010) and can hold a significant amount of information or be connected instantly with company designated storage locations as well as personal storage remote locations. The TAM conceptual framework is also in line with the unified theory of acceptance and use of the technology (UTAUT) citation theory

as well as the theory of task-technology fit (TTF) (Gebauer, 2008) and addresses the importance of taking the smart mobile device positive and negative sides seriously by both employees and employers. People acquire new smart mobile devices believing that they will gain additional significant benefits and capabilities based on the information the device manufacturers convey to the potential buyers. The theory of planned behavior governs such practice. Additionally, smart mobile technology has been spreading out rapidly which diffusion of innovation theory supports and explains.

Nature of the Study

A qualitative phenomenological method of inquiry was the approach for this research study. The open-ended questionnaire is one of the most significant data collection techniques in a phenomenological research (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008; Moustakas, 1994). SurveyMonkey, an Internet-based service, with the self-created questionnaire for this research was the data collection method from the participants. Microsoft Office software package was used to code and analyze collected data from the questionnaire to evaluate the effect of smart mobile devices on how employees work. The population for this study consisted of Fortune 1000 company employees living and working in the U.S. that use either employer issued or personal smart mobile devices in the office, while traveling, and during off-hours. The U.S. Census data was the source for the sample for this study and SurveyMonkey.com provided the participant list based on the participant criteria for this study. The Census shows that 2,187 mid-size companies in the United States ranged between $500 million

and $1 billion in annual sales ("Middle-market company," n.d.). The sample size of 20 participants, based on Creswell's (2013) recommendation, or until data saturation is reached, represented the sample for this study. The detailed design is described and presented in Chapter 3 of this study.

Definition of Terms

The following definitions define the technical terms used in this research study:

Diffusion of innovation: A theory that seeks to explain how and why technological innovation and advancement spreads out through the population worldwide (Greenan, 2015).

Smart mobile devices: Multifunctional handheld computers (iPhone, iPad, iPad Pro, Samsung Galaxy Phone, Samsung tablet, lightweight computers, and other smartphones), wrist computers (Apple Watch, Samsung Watch, and other smart watches), and other wearable computer like devices that are Internet ready for networking together from remote locations and to receiving and transmitting information (Lee & Wood, 2011).

TAM: Technology Acceptance Model (Gao, Krogstie, & Siau, 2011).

The theory of planned behavior: Theory that links belief with human behavior (Khalifa, Cheng, & Shen, 2012).

Transformational technologies: New advanced technologies that result in significant change how people live and work (Lucas, Agarwal, Clemons, El Sawy, & Weber, 2013).

UTAUT: Unified theory of acceptance and use of technology (Rempel & Mellinger, 2015).

Assumptions

There were four main assumptions in this study. The first one was that the information revolution is taking place right now worldwide (Dohery & Fulford, 2006) and will continue well into the future. Company managers and staff that design, develop, and manufacture smart mobile devices will continue introducing new technologies and improvements to the capabilities and functionalities of smart mobile devices that will influence and change the way people work. Smaller but more powerful and affordable smart mobile devices are becoming a part of people's life. People depend on smart mobile devices and carrying them becomes a habit. The second assumption was that in places where the Internet is available, almost everyone is online, and there is a high probability that someone is looking at our proprietary and personal information without authorization increasing the risk of cyber-crime (Sena, 2013). Company trade secrets and the intellectual property are at risk of exposure to the competitors. The challenge is that the companies and the users, in most instances, are not aware that someone else has access to their proprietary information. When the companies and users discover that someone else gained access to their information, it is too late to prevent the breach. The third assumption was that when hackers compromise a device (Stohl et al., 2008), the effect it has on peoples' self-being and emotions, which will affect employee work, is not known. Each person reacts to the personal information breach differently. The information breach

may affect the person's self-being. The fourth assumption was that the questionnaire has not been designed to obtain information that would make the participants uncomfortable. Thus the participants responded to the questions honestly and to the best of their knowledge and ability. The participation in the study was voluntary and confidential, and the individual responses were only available to the researcher.

Delimitations

Delimitation is the scope of the study (Mauch & Park, 2003). The primary focus of this study was to evaluate collected information from 20 participants that worked for mid-size U.S. based organizations only. Any working person using smart mobile device could have been potential participants of the study resulting in an enormous population that had to be narrowed down to a manageable and meaningful size. Narrowing down the participants to the U.S. geographical area and concentrating only on mid-size organizations were the major delimitations of this study.

The purpose of this qualitative phenomenological research study was to explore the lived experiences of the influence smart mobile devices have on how employees work. The final analysis provided the basis for the study outcome and served as the conclusion of the study. Expanding the geographical area and the company size would provide better insights into the problem however due to the large size of the population the study was narrowed down to a manageable scope.

Limitations

The smart mobile device market is still developing but advancing rapidly. Smart mobile device designers and manufacturers are continuously searching for new solutions to provide users with additional capabilities and functionalities that would influence the users to purchase their devices versus the devices from the competitors. The smart mobile device competition is becoming very intense, and any functionalities that the users may perceive as significant will provide the selling company with the additional revenue. As new data and solutions become available, it can change the outcome of the previous research. The information collected from a sample of selected participants, or until data saturation occurs, from mid-size U.S. companies that use currently available smart mobile devices formed the base for the analysis. Understanding of the smart mobile device influence on how employees work was critical to the outcome and the success of the study. Each participant was asked to answer the same set of questions to ensure consistency. There were no questions that required the participants to write about their personal confidential data. Additionally, the questionnaire was focused on the participants living in the U.S. and working for the U.S. mid-size companies limiting the access to different geographic locations, other than mid-size companies, and people working in other countries. The Internet availability, speed and the quality of the Internet service, cost of the smart mobile devices, and the smart mobile device available functionality could significantly influence the outcome of the study. However, the Internet coverage in the U.S. is perceived as readily available and generally affordable.

Finally, the smart mobile device user technology acceptance determined the level of using such devices for work and personal related activities.

Significance of the Study

This project was unique as it addressed the under-researched topic of smart mobile device technology that significantly changes the social, professional, and personal aspects of employees' lives. The findings of this study may add to the body of knowledge and may provide organizations with valuable information that provides answers to what influence smart mobile devices have on how employees work. The answers may educate and enable employers and employees to allow them to manage better smart mobile device use taking full advantage of the available technology and maximize their effectiveness.

Society increasingly uses smart digital devices and the trend of using smart mobile devices for digital activities indicates that life will depend on such devices in the future (Sorensen, 2013). The importance of this study was to analyze the collected information to determine the effect the smart mobile devices have on how employees work. Today business professionals are expected to be connected to their workplace, coworkers, and customers and respond to questions and requests right away, which is significantly different than before smart mobile devices became available and generally accepted. It would be beneficial for the scientific and academic world to show the smart mobile devices' effect on how employees work that is performing more tasks in any place and at any time.

For the first time in history, many employees own newer and more efficient technologies than the employers provide (Gruman, 2012) and use them at work or outside the workplace (Sorensen, 2013). This trend will continue because the prices of smart mobile devices are trending down and the individuals do not have to obtain approvals for acquiring new technologies because it was too expensive to purchase them personally. Employees using smart mobile devices, whether privately purchased or employer issued will continue using them for work, and personal purposes. This trend increases the risk of sensitive information, company trade secrets, and intellectual property exposure. Organizations need to test new technologies for security and integration with their current corporate systems, as well as they need to comply with corporate policies or change them, which takes time.

Significance to Practice

Organizations are living organisms (Morgan, 2006) continuously adopting new technologies. Leaders need to understand the mobile device usage to make the right decision because the decisions they make affect the organizations for a long term (Drucker, 1967). Innovative technological solutions provide a competitive advantage when properly used. It is equally important that the employers understand how people are using smart mobile devices to create a more productive environment for the employees and at the same time protect company's trade secrets, sensitive information, and intellectual property. Dessein and Santos (2006) researched companies to examine whether enterprises that allow employees to be flexible with regards how they complete

their tasks and how they communicate with others would allow companies better adapt to the crucial innovative trends. What they found is that adaptive organizations provide employees with freedom how and when they work on given tasks. These types of organizations attract more creative resources that are open to communication and collaboration with others who are willing to improve their knowledge and in return benefit the employer.

Information technology practitioners need to understand how mobile smart device owners make the decision which technology to acquire. Additionally, they need to know how employees conduct social networking, manage customer relationships, conduct personal activities, as well as perform other work related activities that include handling sensitive company information, intellectual property, and trade secrets. Smart mobile devices continuously linked with the Internet eliminate the personal and professional boundaries and are becoming an inseparable part of people's life, but there was a need to understand the effect the smart mobile devices have on employee work. The goal of this research was to study the influence of smart mobile devices on how employees work to answer the research questions and provide employees and employers with information that would allow them to take full advantage of currently available smart mobile device technology and prepare them for dealing with potential breaches.

Corporations spend a significant percentage of their annual budget on securing information and training the technology users, but any system is as good as the weakest link (Arce, 2003), thus both, information technology professionals and individuals must

take responsibility for protecting information and access to the related systems (Rotvold, 2008). The technology alone cannot provide all the needed security but the technology and safety awareness can significantly reduce the risk of information compromise (Rotvold, 2008). Vast acceptance of smart mobile device technologies creates potential information breach risk. Thus, security software and hardware organizations need to develop new ways of securing access to the hardware and software to protect the information storage locations. The firewall, network security, and the protection at the server level became the norm (Arce, 2003) in organizations. Significant investments in security became necessary and unavoidable to fight computer viruses, denial of service attacks, hacking the corporate system, stealing of intellectual properties or damaging Internet-connected systems (Aytes & Connolly, 2004). However, such security measures are not enough to secure smart mobile devices today. Smart mobile devices are very appealing to the users but at the same time present information security problems if not secured properly (Patten & Harris, 2013). They are intuitive, allow users to access, and share information virtually at any time and from any place (Stohl et al., 2008). Smart mobile devices easily connect with available public networks making it easier for the hackers to break in and potentially steal valuable information. The challenge is that most of the people do not understand the threats to smart mobile devices as well as they understand the threats to their traditional computers (Patten & Harris, 2013) that use Windows operating systems. People download fake applications and install them on their smart mobile devices without realizing that unauthorized activities would take place once

the user opened such applications resulting in illegal information leakage (Kwon & Kim, 2013). Additionally, children and teenagers use the same kind of smart mobile devices and connect to the same networks as their working parents do increasing the risk of someone accessing parents' smart mobile devices through those devices.

Significance to Academia

Knowing how people use their smart mobile devices, when they use them, and why, I could identify patterns and habits to pinpoint how smart mobile devices affect the way employees work. Working together and being knowledgeable people can create safer smart mobile device environment where more capability would be introduced to help people stay connected with others for medical or personal purposes. Healthy employees have more time available for personal and work related activities. Being aware of potential hacking activities and knowing how to secure personal information will decrease the illegal hacking activities that are damaging human dignity that is one of the most important aspects of Walden University's (n.d.) social change.

Significance to Social Change

Employers play an enormous role in social change, but at the same time, they can be limited to how much change they can drive depending on how and where they operate. Only a few organizations were ever able to drive positive social change very well (Beinhocker, 2006) and others are just average. Technology has been continuously changing the way people live and work (Sorensen, 2013). The global electronic revolution (Dohery & Fulford, 2006) has advanced the information systems. Today

people can be in touch with virtually anyone, at any time, from any smart mobile device with the Internet connection (Stohl et al., 2008). People can conduct business, monitor their health, perform personal activities, or search the vast Internet library on any subject from anywhere providing they have the Internet connection. For instance, students can be anywhere in the world and at any time of a day can work on research, write school papers, post to the class discussions, collaborate with others, from virtually any smart mobile device or a personal computer once connected to the Internet. The information revolution and broad acceptance of the technology lower the cost of the smart mobile devices allowing larger population take advantage of the technology but also increases the risk of the information breach because if the users can access information over the Internet from any place cyber-criminals can gain access to the same information. The users have a choice to either follow safe practices that would lead to more secure systems, personal information protection, and security or take a risky approach that would result in a high probability of negative consequences and additional cost (Aytes & Connolly, 2004) to address information breaches when they happen. The good news is that recent advancements in smart mobile device technology such as biometric identification are gaining popularity (Seo, Kim, & Kim, 2012) because they address the information security via personal identification and make it easier for the users manage the access to the devices. The biometric identification method for intelligent mobile devices analyzes the user's input patterns and develops advanced access security on such devices. Each person has a different finger touch duration, pressure level, and touching

width of the finger on the screen. The biometric identification approach is a new technology, and the concept adds significant value to the mobile security and addresses social change because such technology will secure information on the fast-growing number of smart devices worldwide decreasing the chance potential hackers would access personal and sensitive information. When someone loses a device, other people would not be able to access such devices because of the lack of fingerprint pattern, voice recognition, or eye scanning of the device's owner. Additionally, most of the smart mobile devices are already equipped with the capability to erase all the information on the device if a wrong password is entered more than allowed times. Smart mobile devices have changed the way people work and changed the way they live and function each day affecting their professional, personal, and family life, and this trend is set to continue.

Summary and Transition

Any time the smart mobile device manufacturers introduce new models they create an image that transformational technologies positively change people's lives. They also overemphasize the positive effect the new features have on the activities people perform on their smart mobile devices. Rapid growth in electronic device development and the advancement of the Internet availability and connectivity, people became inseparable with their smart mobile devices. People live in the *always-on* mode and use their smart mobile devices virtually in any place they are and at any time during their waking hours. The smart mobile device capabilities and Internet availability created the expectation that people stay connected all the time and respond to questions and requests

almost right away. Smart mobile device technology and broad acceptance eliminated the boundaries between personal or professional lives. People perform work-related and personal activities on smart mobile devices when they are at work and, while traveling, and during the off-hours.

Any time a new device becomes available that promises better functionalities and capabilities people and organizations spend an enormous amount of money to acquire such devices to take advantage of the promised benefits. As the world progresses with further developments and advancements in electronics and the manufacturers are making the devices self-learning, there was a need to assess the influence of these transformational technologies on employee work. This chapter includes an overview of the study, presents the problem statement, the purpose of the study, research questions, theoretical foundations, nature of the study, assumptions, limitations, delimitations, and the significance of the study.

A thorough review of available literature follows in Chapter 2 to ensure there was no previous research conducted that would answer the research questions of this study. Chapter 3 includes a discussion of the research method.

Chapter 2: Literature Review

The invention of the Internet and rapid advancements in the development of electronic devices started an information technology revolution that enables people to communicate virtually from any place, anytime, and from any smart mobile device. Smart mobile devices help people perform personal and work related activities that were not as easy before the development of the smart mobile technology. The information technology revolution has changed the way people live and work today. The purpose of this chapter was to review available literature related to smart mobile device influence on how employees work to find significant gaps that may exist and whether prior studies investigated into the smart mobile device influence on how employees work. There are four major sections in this chapter. These sections are the literature search strategy, the theoretical foundation, the literature review, and the summary.

Literature Search Strategy

There are a limited number of scientific publications and studies that related to the effect smart mobile devices have on how employees work. The literature search strategy has been narrowed down to identifying related peer-reviewed scientific studies and papers that are available at the Walden University's library, Internet database searches, United Nations' database searches, and management books related to smart mobile devices and how employees work. Thoreau multiple database tools were the primary search engine for identifying the peer-reviewed scientific papers at the Walden University's library. The specific databases that the peer-reviewed articles and related

materials originated from are the part of the business and management databases. ABI/Compete, Business Source Complete, and National Bureau of Economic Research are the databases used in this research. Google Scholar was the instrument for searching information about references. Linking Google Scholar with Walden library provided a direct link to the articles stored at the Walden Library. The major search terms used in the literature search process for this study were *smart mobile devices, transitional technologies, mobile phones, office productivity, artificial intelligence, personal mobile assistant, predictive analytics, mobile workforce, global population,* and *cyber security.*

Conceptual Framework

Conceptual framework plays a critical role in the qualitative method of inquiry. Maxwell (2013) pointed out that conceptual framework is what the researcher is basing on the qualitative research study. Conceptual framework serves as a spotlight or central point in the research. Creswell (2013) called concepts paradigms that serve as the roadmap (Patton, 2002) that sets the directions of the study and focuses the researcher on what to evaluate. The way the researcher presents the conceptual framework might also provide insights into the researcher's bias and beliefs. The conceptual framework offers a perspective on what to expect from this study because conceptual frameworks are explainable and scientific. Previous experience and social conditions influence the final state of the concept. Conceptual frameworks explain the shared and lived behavior (Creswell, 2013), which is a part of phenomenological research study concept.

Charan (2008) and Welch (2005) through years of their professional work created a theory that new technologies and how people work influence employee productivity. Smart mobile devices are the new technology that is quickly replacing desktop and laptop computers and become the norm. The technology acceptance model (TAM) supports this study. TAM was created by Davis and states that smaller but much advanced and more powerful smart mobile devices are replacing traditional computers, and organizations must educate their employees how to use such devices safely and efficiently (Rempel & Mellinger, 2015). The TAM's construct is related to perceived usefulness, perceived ease of use, and intention to use new technology. When companies introduce new technologies, it is important to the management to study what influences users and how they will adopt the new technology. TAM is one of the models that intends to test the user acceptance (Gao et al., 2011). Also, TAM techniques help to define the probability the potential users will adopt the new technology and the belief the user has regarding the ease of use of the new technology. TAM was originally developed for the information technology field but has also been used in other fields of technology (Gao et al, 2011). The smart mobile device technology is relatively new, and more studies are needed to understand better the user acceptance and the perceived benefit of using such devices.

Charan's and Welche's theory is also in line with the unified theory of acceptance and use of technology (UTAUT) concept and addresses the importance of taking the smart mobile device positive and negative sides seriously by both employees and employers. UTAUT was created by Viswanath Venkatesh to measure the influence of

other users' behavior on the technology adoption process (Rempel & Mellinger, 2015). People acquire new smart mobile devices believing that they will gain additional benefits and UTAUT model provides a guiding framework understanding new technology adoption and use behavior (Rempel & Mellinger, 2015). This belief supports the concept of planned behavior. The UTAUT model is especially used by software developing companies to predict and estimate how new features will be perceived and whether the new product will be profitable. This model is very helpful when management needs to make predictions how users will benefit from new technology. The common practice is to gain feedback from researchers and advisors about adoption probability when introducing new technology. Product or service expectancy is of high interest to the software or product developers. UTAUT is more advanced than TAM and unifies many factors of the technology acceptance model (Gao et al, 2011). It especially helps management to make sense of technology users' behavior (Rempel & Mellinger, 2015)

Literature Review

The purpose of the related literature review in this research study was to establish the basis for what has been investigated so far to identify considerable gaps and set the direction for further study that led to answering the research questions and ultimately solving the research problem. Searching for literature that relates to the topic of this study was a challenging process because most articles showed the economic effect, privacy aspects, and cyber-security risks of smart mobile devices; thus, evaluating the literature contents provided more details versus the titles and abstracts. A thorough evaluation of

the subject was needed. Smart mobile device technology is relatively new and still rapidly developing limiting the number of available sources that would help establish a meaningful baseline for the effect level of smart mobile devices on employee work.

Walden's library and Google Scholar Search engine were the primary sources for literature search and content evaluation related to the smart mobile device influence on employee work. The search strategy for this study began with the title search to identify whether similar research studies existed and how any of the previous research studies related to the smart mobile device influence on the employee work. The search strategy ended with the review of the available research methods to explain the reason for the qualitative phenomenological method of inquiry employed in this research study.

Review of Historical Research

Smart mobile device technology has advanced enormously in the last few decades but is still in its development stage. The rapid growth of the Internet services and the new network technological solutions promoted the use of smart mobile devices, which became a part of people's lives. Historically disruptive technologies had originated in the business environment. The introductions of the BlackBerry services in the 1990s is one of the examples of business focused smart mobile device. However with Apple, Inc.'s introduction of the iPhone technology in 2007 that has been specially developed for the individuals the way people communicate and work today have changed drastically (Isaacson, 2011). For the first time, individuals could use better technology than what was available at work. Advances in the network availability, capability, and flexibility

allow for easy connection to the Internet (Duncan 1995). Any smart mobile device is instantly connected with other devices eliminating the boundaries between the private and work related activities. Today there is no clear division between personal and work-related activities and smart mobile devices are becoming the office, the classroom, home, and people's personal life (Meister & Willyerd, 2010). Instant and efficient communication from virtually any place and at any time allow people to stay connected with one another, be aware of important events and developments, keep the momentum of mission critical project going (Robertson & Williams, 2009) as well as decreasing the chance of making the same mistakes. There is a close correlation between organizational efficiency and profitability (Albadvi, Keramati, & Razmi, 2007); smart mobile devices enable users to be more informed and engaged.

Efficient operations and timely communication lead to increase in corporate profitability (Sing, 2012), better relationships with the customers, also greater employee productivity. Research studies have been conducted to assess smart mobile device influence on employee productivity (Ahmadi & Ahmadi, 2011; Wikina, 2008); however, there was a gap between existing research studies and the need for measuring the extent to which smart mobile devices influenced employee work. In the age of digital economy, the geographical boundaries do not exist anymore (Agrawal & Haleem, 2003) allowing organizations to do business virtually from any place and at any time. Today employees do not have to be physically in the office in front of their computers, as they had to be before the smart mobile technology availability to conduct business remotely. With such

capabilities, shared vision and trust play a significant role in the employer-employee relationship (Gagnon, Jansen, & Michael, 2008). Employees are willing to use their smart mobile devices for business-related activities outside the business hours if they could have the option to use their smart mobile devices to manage their important personal issues that might present themselves during the business hours. This practice is becoming the normal way of life (Alley & Gardiner, n.d.); however, it was unknown how being constantly connected and continuously using smart mobile devices affected how employees work.

Smart Mobile Device Evolution

Information technology is the key enabler of business transformation. Information Technology can help companies significantly improve productivity, business processes, and at the same time reduce operational cost (Abdous & He, 2008). The critical step is to link the employee productivity to organization's strategy (Minonne & Turner, 2012) and clear communication; otherwise, the technology may bring negative results. Acceptance of smart mobile devices subsequently changes usage behavior that is explained by the technology acceptance model theory (TAM) as Alley and Gardiner (2012), and Gebauer (2008) pointed out. The information revolution that started in the late 1960s took years to build the foundation for smart mobile device capability we have today and enable users to take advantage of it. The transition from stand-alone computers to continuously connected smart mobile devices was gradual. It has progressed from time sharing and limited networks to continuous and interconnected systems. The network capabilities

today enable productivity improvements, ability to respond instantly to customer requests, and help employees balance work and personal activities (Whitten, Hightower, & Sayeed, 2014). Even though smart mobile technology has been available since the 1990s (Whitten et al., 2014) in the form of personal digital assistant (PDA), the actual capability was not captured until the introduction of the Blackberry technology in 2003. Organizations quickly took advantage of BlackBerry technology to provide employees with instant and secure access to emails and calendars from any place and at any time, providing Internet connectivity be available. The Blackberry technology was pushed and fully supported by businesses. However, the introduction of the iPhone in 2007 switched the push for new technology from business to employee-driven (Whitten at al., 2014) introducing a major transformation from IT-driven technology to user preferred technology increasing the security risk. Smart mobile device users today connect with trusted and untrusted networks, other users, and a variety of other machines and devices without realizing it (Diffie, 2008), exposing themselves to cyber-related security breaches and data breach risks. Employees store more than 70% of the information in computerized systems (Atkinson, 2005) instead of printing and storing the information in physical files. Electronic storage provides users with instant access to information from anywhere and at any time. Smart mobile devices are the primary means of connecting to the remote information. Such connectivity presents a serious intellectual property and privacy breach risk because if users have easy access to digitalized information, cyber-

criminals can find a way to access such information as well and use it for an improper purpose.

Activities Performed on Smart Mobile Devices that Influence Productivity

The fast-growing smart mobile device technology has changed the way people live and work today (Alley & Gardiner, 2012). Organizations are making substantial investments in smart mobile technology to create business possibilities and capabilities (Anckar & D'Incau, 2002) to enable users to perform a variety of activates on their smart mobile devices. Smart mobile devices have become an extension of the human body to the point where human life will depend on the functionalities and service of smart mobile devices. Such capabilities increase smart mobile device popularity (Noll, 2006 as cited in Alley & Gardiner, 2012) and generate new opportunities for business and individuals enhancing productivity (Alley & Gardiner, 2012). The challenge is that employees do not understand the threats to smart mobile devices as good as they understand the threats to their desktop and laptop computers, thus, there was a need to protect corporate mobile assets (Patten & Harris, 2013) to keep the productivity increasing. Also, testing (Schneidewind, 2010) and teaching (Robertson & Williams, 2009) how to use the new functionalities is critical to productivity growth to enable organizations (Feng, Peiji, Dong, & Liangqiang, 2011) to perform better and create value for the shareholders. Employees need to work together and learn from each other to effectively and efficiently take advantage of the technological solutions that smart mobile devices provided and what they will provide in the future.

Traditionally employees had to be in the same location to work on projects or have a face-to-face meeting. The telephone technology eliminated the need to be in one place and allowed employees to have conference calls. It still required being in an office setup or where a telephone landline was available, but the cost of such meetings was still relatively high especially when employees from around the world had to be on the call. With the introduction of the Internet (Alley & Gardiner, 2012) and data transfer availability on smart mobile devices, employees can be in any place and at any time (Gebauer, 2008) and be able to participate in conference calls and video conferences. Smart mobile device technology allows people to transfer images, share files, and communicate freely at nominal or no cost while being away from their physical office (Anckar & D'Incau, 2002; Gebauer, 2008; Whitten et al, 2014). A virtual environment that smart mobile devices enabled, allow people to collaborate and share diverse ideas despite cultural differences. However, the virtual environments create more complexity that might cause managerial and ethical challenges. Table 1, that I have created, includes high-level differences between pre-smart mobile device time and today. Also, Table 1 includes potential challenges virtual environments might present.

Table 1

Traditional versus Virtual Teams

Traditional versus virtual	Local traditional team	Global virtual team
Diverse ideas		X
Cultural differences		X
Lower complexity	X	
Efficiency	X	
Collaboration		X
Lower bias	X	
Alignment with overall strategy	X	
Ease of making decision	X	
Management challenges		X
Variety of tools used		X
Ethical challenges		X
Higher training needs		X

The globalization has created a digital workforce that is changing the way we work and communicate with one another (Whitten et al., 2014). Our mobile devices are becoming our office, classroom, and our life (Meister & Willyerd, 2010). Instant electronic connections with others enable people to collaborate at any time and from any place where the Internet service is available. This interconnectivity allows companies to form cross-functional teams regardless of the employee location. Cross-functional teams are critical to any organization's success, and advances in technology allow team members to meet online at any time, in any place, using any device. This capability also helps the workforce to be mobile and still stay connected with one another. With further advancements in technology, the capability of being constantly online has been expanding into new territories such as airplanes.

In-flight digital activities. The Federal Communications Commission (FCC) has eased the ban on in-flight smart mobile device use abroad airplanes allowing passengers to use their smart mobile devices and stay connected with the outside world while in route first domestically and now internationally. Communication with other employees or customers while in-flight is necessary in today's digital business world and we are expected to answer the telephone during regular waking hours or respond to a text message. Family members, friends, work mutual acquaintances, and other individuals in people's life expect fast and almost immediate responses as well. The connectivity with the outside world while aboard of an airplane is one of the latest frontiers to be captured and optimized. Automating routine frees up employees' time. Smart mobile device technology provides artificial intelligence where the devices and the software installed on them assist the users with preprogrammed and learned capabilities.

Virtual assistant. Digital virtual assistant provides smart predictive service based on previous activities. When people perform certain activities, digital virtual assistant can collect data such as wake time, bedtime, relevant phone numbers and email addresses, locations, system alerts and guidelines, and much other work-related activities and events. Additionally, people are interested in knowing their personal health and fitness statistics so they can determine when they are at their prime time to perform certain activities. Heart rate, blood pressure, sweating level, anxiety level, and other information that is related to human body behavior help users monitor their health to determine the optimal time and duration for a variety of daily personal and work related activities. Such

historical information then combined with calendar entries, GPS location, environmental information, and human body statistics can be used to create predictive intelligence to prepare the user for future similar activities suggesting best steps to maximize personal readiness and performance that ultimately would affect productivity at work. Today, with rapid advancement in electronics and the Internet, productivity is the answers or the solutions for personal and business growth as well as an increase in the innovation (Toader, 2010) to gain competitive advantage. The challenge is to ensure that sensitive and competitive information is secure because when system breach takes place, it may put business and individuals at risk of becoming much less profitable and productive when they must allocate time to fixing problems and securing the systems from future breaches.

Smart Mobile Device and Employee Work

Staying in business and global competitiveness are important topics essential to every executive's agenda (Singh, 2012). Global markets have taken regional and geographical boundaries down (Agrawal & Haleem, 2003) allowing organizations do business virtually in any place and at any time. Customers that were previously unreachable are now a few mouse clicks or an electronic link away. With no geographical market boundaries organizations are under tremendous pressure to keep up with global competition, customer satisfaction, and innovation to stay in business and most importantly, profitable. With the help of smart mobile device technology, companies are reinventing themselves to ensure effective and efficient processes are in place and

employees have the skills and tools to maximize their performance (Whitten et al., 2014). Technology can help make operations more efficient (Abdous & He, 2008) and smart mobile devices allow for instant access to information and internal systems that can lead to higher profits (Sing, 2010) and significantly increased customer satisfaction. Smart mobile devices can also provide valuable exception reports and alerts to notify employees when certain processes exceed set limits or when real problems present themselves. Automating routine business practices so the workers can be freed up to do creative and intellectual work (Albadvi, Kermati, & Razmi, 2007) that would help the company stay competitive, create value, improve performance (Lee & Chuah, 2001) and make more money (Devaraj & Kohli, 2000). Employees want to be connected and regularly use their own devices for work-related purposes (Whitten et al., 2014) despite corporate policies that prohibit them from doing so, driving the increase in smart mobile device usage enhancing value and productivity (Alley & Gardiner, 2012). The growth in the smart mobile device usage amounts to approximately 50% per year, which is in line with the technology acceptance model's (TAM) prediction as Alley and Gardiner (2012) pointed out. Smart mobile devices increase business possibility (Anckar & D'Incau, 2002) creating value and enable users to take advantage of a variety of mobile tools to handle the number of tasks and activities.

Smart mobile device technology is a new medium of wireless convenience (Anckar & D'Incau, 2002) providing employees with excellent and efficient capabilities while away from home or office, but at the same time presents challenges such as device

cost, connectivity problems, developed negative work habits, and cyber security. Those attributes have been researched and documented; however, the studies did not provide insights that would influence productivity. Figure 1 that I have created highlights the major areas that need to be taken into the consideration when researching smart mobile device effect on employee work.

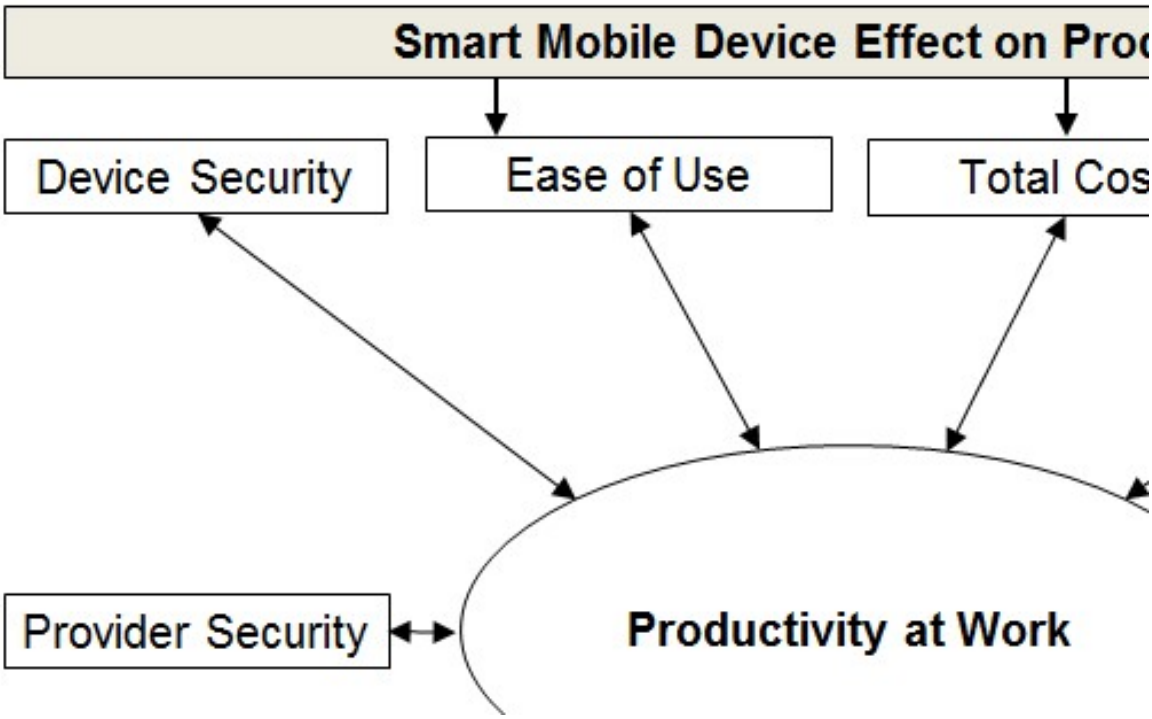

Figure 1. Effect of smart mobile devices on employee work.

New technologies and knowledge allow organizations to create strategic plans and initiatives (Ahmadi & Ahmadi, 2011) that enable organizational growth and increase in productivity. Whitten et al. (2014) studied smart mobile device user adoption model (CMUA). The model helped them to conclude that smart mobile device technology forced users to change their behavior due to the benefits and satisfaction the users are

getting from the available technology. The study further shows that due to corporate policies that limit users to what they can and cannot do on company-issued devices, 59% of employees use their personal devices to connect to corporate systems or perform work related activities. Information technology investments in smart mobile device technology are supposed to help improve firm profitability, but it is questionable whether employees are taking full advantage of such technology to be more productive, contribute to the sales increase, or contribute to cost reduction (Mithas, Tafti, Bardham, & Goh, 2012). Technology has a positive effect on profitability (Mithas et al., 2012) and affects revenue growth, improvements in product promotion, improvements in customer lifecycle management, and to the creation of new value proposition for customers. Mithas et al. (2012) examined the relationship between IT investments and organizations increase in profitability. The profitability increases when organizations and employees work together and take responsibility for device security (see Figure 2) that I created. Information security closely relates to the trust between the employer and employees, flexibility of smart mobile device use, and convenience as Whitten, Hightower et al. (2014) pointed out.

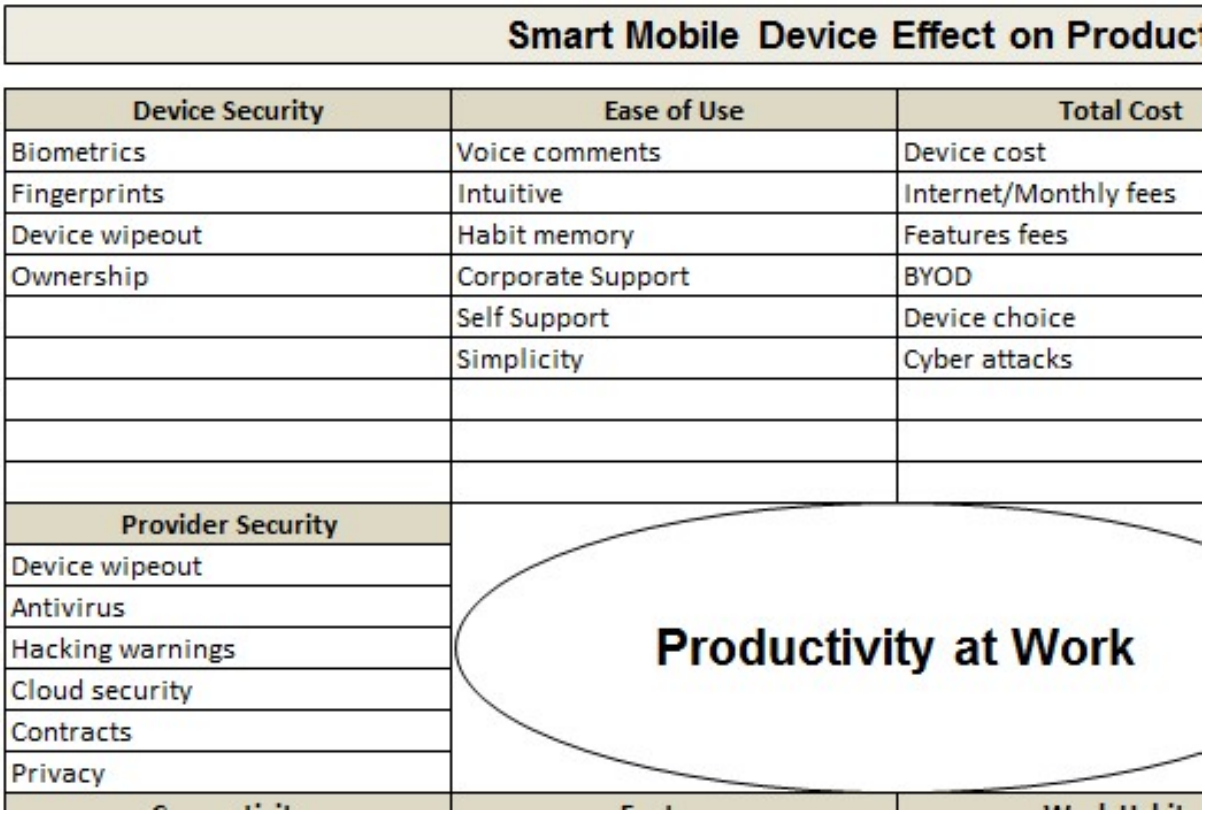

Figure 2. Smart mobile device areas that impact employee work.

With the increasing global competitiveness, organizations need to stay current with new technologies to keep reducing operational cost, increasing employee productivity, and improving customer satisfaction as Gebauer (2008) pointed out in her research. Smart mobile technology and the extent to which using the technology is enjoyable (Alley & Gardiner, 2012) determined how effectively and efficiently employees are using their smart mobile devices. Alley and Gardiner (2012) also pointed out in their research that the technological device design and the entire system performance significantly contributed to the adaptability and the user performance increase. The system design is a critical part of the continuous productivity improvement

methodology that the smart mobile solution companies must consider. Smart mobile devices must deliver a package of functionalities as Alley and Gardiner (2012) concentrated on in their study to allow users to send and receive information at any time and in any place as Anckar and D'Incau (2002) pointed out. Customers demand quality products that help them make their lives easier, safer, and meaningful according to Kim and Moon's (2013) study. Competitors make business process improvements that result in better products at a lower cost to gain market share and benefit those who use the products or services; thus, organizations cannot sit still but look for ways to improve productivity. Organizations that focus on performance and successfully make business process improvements stay competitive and profitable where companies without strong process and productivity improvement program struggle to remain in business (Ally & Gardiner, 2012). Some companies are better than other businesses. One example is Apple Inc. The company is a great performing organization and so difficult to beat. The reason it is so difficult to compete with Apple is that the former CEO Jobs created the culture that does not mandate that the employees need to beat the competition or make much money. The culture calls for making the greatest things possible (Isaacson, 2011) from the design point of view and then manufacture it at the lowest cost possible (Pisano & Shih, 2012) without compromising the quality. Kim and Moon (2013) analyzed the smart mobile device performance and concluded that due to increasing browsing speed, availability of new services, increasing the range of contents, and quality of the smart mobile devices most of the people in the world are expected to use smart mobile devices

within several years. Kim and Moon (2013); Ally and Giardiner, (2012); and Whitten et al. (2014) further pointed out in their study that most users today use their smart mobile devices for email, web browsing, and texting. Their survey shows that employees use smart mobile devices for email 27.65%, web browsing 17.6%, and 14.4% for testing. Thus, excellent opportunity exists for organizations to listen to employees and customers, identify further smart mobile technology user requirements, and create right nonstationary office environment (Gebauer, 2008) without location and time limits to foster enjoyable digital and location less work environment where employees willingly take advantage of the technological solutions.

Corporate profitability and employee productivity improvement cannot be a one-time strategy. Companies need to adopt a continuous process improvement methodology and link it to the business strategy (Minonne & Turner, 2012) with integrated information systems and smart mobile devices as a center of the development with a holistic view of the entire organization (Senge, 2006). Profitability and productivity improvements require management to rethink how they act and which tools they use to ensure efficiency and effectiveness (Abdous & He, 2008) of the operations and the way employees work. Without automation and integration of smart mobile devices into operations and allowing employees explore new capabilities, organizations will be facing a challenge (Devaraj & Kohli, 2000) to stay competitive and profitable. Hastie and Dawes (2010) pointed out that well-defined process is superior to human judgment, thus encouraging employees to take a full advantage of smart mobile device capabilities should become a part of

organizational culture. Kim and Moon (2013) pointed out that the smart mobile device usage has been increasing because of the new capabilities, greater Internet speed and availability, and the ease of use of new technologies. The researchers further pointed out that the increase in using social networking services such as Facebook, Twitter, and LinkedIn has increased 50%, 75%, and 69% respectively between 2011 indicates that using such social networking services for business-related activities could substantially increase employee productivity. The current idiosyncrasy is that majority of the organizations block employees from using most of the social networking services at work where mobile Internet and smart mobile devices are becoming a medium for commercial purposes as Anckar and D'Incau (2002) predicted in their research. Based on the survey, the user perceived mobility value exists in convenient access smart mobile devices provide (Ally & Gardiner, 2012), but the use of smart mobile devices is still in the initial stage.

The role of executives. Productivity is one of the most important factors (Sobhani & Beheshti, 2010) that allow organizations prosper and employees grow. New technological solutions provide executives with capabilities that help organizations increase productivity as long as the technology becomes a part of the business strategy. When managers do not believe in the organization's strategy and are not willing to invest in information systems (Devaraj & Kohli, 2000) employees will not be willing to use their personal smart mobile devices for work-related activities unless such practice would benefit them personally. The senior management must take a leading role to ensure all the

executives work together towards the same goal and support investments in smart mobile devices and digital economy. Managers are expected to work as a team supporting standardized smart mobile device use throughout the company versus concentrating on their own department's or functional benefits (Welch, 2005). Promoting smart mobile device usage for work related purposes and digital activity, especially among older employees (Crowcroft, Fu, & Li, 2014), might be a challenging task. Executives need to identify and manage people's reactions to change (Wang & Paper, 2005) if they want to maximize the employee productivity. Smart mobile devices and digital workforce bring dynamic information to users allowing for instant communication and message strategy distribution. Recipients can instantly be able to receive the most recent message and decide whether they need to respond to it or the message was for information purposes only (She et al., 2014), where in the past the messages were static and outdated. Executives must also look at themselves to ensure they do not create unrealistic expectations (Scott & Vessey, 2002) that ignore smart mobile device user needs and requirements that would put high failure risk on the success of the productivity improvement projects. User perceived smart mobile technology maturity is a critical factor that helps understand how various users will use new technologies (Gebauer, 2008). Smart mobile devices are extremely popular but the difficulties in increasing the usability of other than basic functionalities such as email, texting, social networking, or web browsing present organizations and users with a significant challenge as Gebauer's (2008) study pointed. Cebauer (2008) concluded that the reason employees use smart

mobile devices outside of work for email purposes is to avoid work overload when they return to the office.

With the advancements in smart mobile technology, some information systems and methodologies became widely available (Gershon, 2010) therefore Information Technology leaders must ensure that the corporate systems do not block or slows down the usage of smart mobile devices. Organizations must manage and continuously monitor business processes and customer relationships. Without IT systems available on smart mobile devices, it is a challenge to effectively and efficiently run business operations in today's highly competitive global environment. Today customers, suppliers, and managers expect an instant response. Also, customers will abandon organizations that do not have modern systems (Wikina, 2008) and product support available when needed. Organizations depend on IT and need to encourage employees to take a full advantage of IT solutions and systems (Wikina, 2008).

Personal and organizational needs. Employees want to be engaged and flexible because they have personal and career related goals. It is in the company's interest to find out employees' aspirations and fulfill them such the organizations could benefit from the extraordinary employee contributions and improved performance. People want to contribute to the organizations they belong to and once motivated want to make improvements to the business processes. Most of the employees prefer intellectual and creative work versus mechanical and routine tasks. Unfortunately, most of the time employees spend on at work is on checking and verifying processes to ensure they run

correctly and are compliant with the established norms. Routine work occupies most of the employees' time during a typical day leaving them with a little time for activities associated with business process improvement and innovation. Gebauer (2008) conducted a research study to define mobility and the find what employees' value that is related to mobility. Gebauer concluded that employees want the possibility and ability to perform work-related and personal activities at any time they need to do so. They want to stay continuously connected and work from any place at any time on any device. Gebaurer (2008) found that employees highly value flexibility and no time-related constraints that today's smart mobile technology provides but organizational policies limit the employees to what they can do and when. Smart mobile technology has a positive influence on keeping people informed thus improving employees' productivity while away from the regular office (Gebauer, 2008) is critical to business success. A clear understanding of the needs of the mobile workforce must be available. Employees are looking for routine job automation (Kesner & Russell, n.d.) so they can concentrate on analytical and intellectual work. Smart mobile device technology can provide such automation throughout the entire organization, but the fragmented systems and manual processes add more routine work to employees' daily activities, which has not changed much as Jennex (2005) demonstrated in the study.

Organizations exist to fulfill their mission of delivering value to the stakeholders. When employees are fully engaged, and willing to contribute more than the organization is asking for stakeholders will benefit from the increased employee productivity. One of

the major aspects that prevent organizations from fulfilling their mission is dysfunctional information system. As organizations grow, they acquire a variety of systems but neglect to integrate them together to make information available from any place, at any time, and on any device. Without system integrations, the content management becomes extremely difficult and counter-productive (Behan & Krejcar, 2012). Smart mobile devices can fulfill this mission if the back-office systems are smart mobile device enabled and the information management is automated. Most of the employees are eager to make a meaningful contribution to the organizations, but when there are no supporting tools and systems available the employees will find the way to make their work easier for themselves without taking the entire organization into consideration from a holistic appoint of view (Senge, 2006). Most employees cannot take a holistic approach and think about the entire organizations because the current organizational structure pushes them back to their immediate area of responsibility. High achievers will use their own smart mobile devices for corporate data and system access potentially exposing company intellectual property and sensitive information to the outside world due to a lack of cyber security measures in place (Seo et al., 2012). Behan and Krejcar (2012) looked carefully into the remote device management topic about employee productivity for users who carry multiple smart mobile devices. The researchers have recognized that there is a need for centralized and consistent management of multiplatform types of smart mobile devices to protect the organization from cybercrime while promoting employee device choice and increase in productivity. The researchers examined the scenario of user-owned

device crash or device loss to determine how easily the content is recoverable (Behan & Krejcar's, 2012). The research concluded that when organizations allow user-owned devices for work-related activities, companies could improve productivity if they had a comprehensive system to manage such devices. The integrated information systems and appropriate smart mobile device management and security in place can help to ensure that individual contributions benefit the entire organizations first and individual employees or their departments second. When information systems lack integration and central management, it is extremely difficult to realize a positive return on the investments in the systems (Yao et al., 2009) and promote greater employee productivity. Organizations need to design information systems for the high-performance environment (Foote et al., 2002) that promotes a highly secured environment because employees need to have instant access to information from any place and at any time. The goal is to enable the organization to support the process of taking an order from customers, making the product or create service, delivering the product or service, and receiving cash for it faster (Shahibi & Fakeh, 2011).

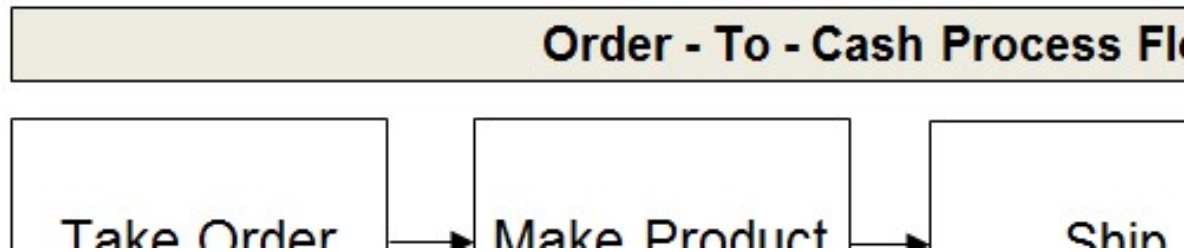

Figure 3. Order to cash process flow.

The four major steps in self-created Figure 3 are the critical information systems points that need to be highly integrated and available on smart mobile devices to serve

customers efficiently and effectively. If any of the steps fails, the order-to-cash process will result in higher process cost. Smart mobile device technology can provide uniform and standardized information within the company and to the valuable customers as Behan and Krejcar (2012) pointed out.

The discrepancy, because of fragmented and highly complex systems, is one of the most aggravating and embarrassing factors among executives and employees because it makes them look disconnected from the reality. Organizations need to convert company data into knowledge and make the information a significant company resource (Alavi & Leidner, 2001). Such data need to be available at any time, from any place, and on any device; the smart mobile devices are the best tools to provide this capability (Ally & Gardiner, 2012). However, the employers need to be aware of the fact that providing smart mobile devices to employees creates a new phenomenon. Employees keep sending and receiving messages in places where making phone calls would not be allowed or acceptable (Cavazotte, Lemos, & Villadsen, 2014) such as churches or courthouses to name a few.

Cyber Security

Smart mobile devices are becoming a part of the enterprise systems (Sediva, 2013), but the administration and maintenance of such devices are not as good as other corporate systems. Employees underestimate the cyber-threats and ignore security rules and policies that organizations put in place (Sediva, 2013). To keep information secured, everyone within an organization must take full responsibility instead of the traditional

approach that only information technology employees should be responsible for corporate information security (Rotvold, 2008) and business continuity (Nair, 2014). Also, business continuity planning needs to be a part of an organization's strategic planning (Lindström, Samuelsson, & Hägerfors, 2010) to prepare for and protect the businesses from cyber-attacks. Smart mobile devices are becoming essential tools used for professional and personal related activities (Friedman & Hoffman, 2008), but the cyber-attack or data breach can significantly decrease company profitability and employee productivity. Recent data compromises and cyber-criminal activities have created serious challenges in the digital life domain. Employees are demanding remote access to corporate systems such they can work at the more flexible time including evenings and weekends as Freedman and Hoffman (2008) found in their research, but organizations are reluctant to allow for it due to increasing cyber threat. Smart mobile devices add much value, but organizations implement mobile enterprise policies to ensure security (Sediva, 2013) that decrease or limit the overall device value and functionality. Sediva's (2013) research shows that corporate policies resulted in the loss of productivity, increased overall direct cost, and contributed to the loss of organization, customer, and employee data as the top three areas amounting to over 80% of related losses. Administration of mobile devices is costly but unavoidable in today's global and digital economy. Some organizations allow for employee-owned devices known as bring your own device (BYOD) program. Employees may use their own smart mobile devices for work-related activities and are reimbursed an agreed amount of money each month. This strategy helps

organizations decrease the initial and the overall cost but exposes the organizations to greater cyber security risk. Sediva's (2013) study shows that BYOD eliminates high initial cost but introduces the limited ability of the company's Information Technology departments to administer, maintain, and control employee-owned devices. Smart mobile device manufacturing companies and data security providers are continuously working on securing the smart mobile devices and data storage places. Despite rapid technological advances in computer hardware and software, the human behavior using such technologies significantly increase the cost of security breaches (Trim, 2005) such as computer viruses, denial of service attacks, intruder hacking, social engineering, to name a few (Aytes & Connolly, 2004). The new directions security companies and smart mobile device manufacturers are taking are to use human body characteristics as the ultimate password or access to the systems. Biometrics and fingerprint are becoming the preferred way of accessing smart mobile devices and soon scanning human eyes, listening to the human voice, and recognizing human heartbeat will become the future norm for information source and smart mobile device access (Seo et al., 2012). If such technological solutions could prevent from potential cyber-criminal activities, individuals and companies could invest the money they spend today on fighting cyber-crime. The challenge is that cyber criminals are constantly looking for alternative ways to break in, and the cyber security companies struggle to keep pace with the cyber criminals' advancements (Bodin, Gordon, & Loeb, 2008). Recent history shows that it takes only one disloyal employee with access to sensitive information to open a hole in the internal

systems for cyber criminals to get access to confidential or proprietary information and cause serious and expensive problems for the company. Cyber-crime is difficult to detect and can be carried on from virtually any place in the world and at any time. Sediva's (2013) survey shows that only 32% of surveyed companies had a cyber-security policy in place, and 18% of the respondents did not know such policy was in place. Smart mobile devices are becoming primary media for Internet connectivity. Since hackers tend to gravitate towards largest target gaps in policies and cyber security could slow down company mobile computing (Friedman & Hoffman, 2008) ultimately increasing organizations cost and decreasing employee productivity. The computer technology has significantly advanced, and the access security became an important aspect of protecting personal and sensitive information. I have created Table 2 to summarize computer technology development and the system access level advancements.

Table 2

Computer Security History

Decade	Information source/access	Security
1960	Stand-alone Mainframes	Physical access to the equipment
1970	Sharetime on Mainframes	Operating System level
1980	Personal Computers	Personal Logins
1990	Networked Computers	Network Login authentication
2000	World Wide Web	Password protected web access over public network
2010	Mobile Smart Devices	Password or biometric protected access to Cyber Cloud

Standardization to Increase Productivity

Standardization is critical to improvement productivity implementation and then to successful business process management. It is important for the leaders to stress out that continuous productivity improvement must be a part of the organization's culture (McCarthy & McCarthy, n.d.). It is everybody's everyday job (Paper, 1998) to look at simplifying and improving processes to stay productive and competitive to create value for the customers. The reason most of the productivity improvements initiatives failed is that the senior management initiated shared a vision without creating the single message that explains why productivity improvement at work must take place (Weerakkody & Hinton, 1999). When disruptive technology, such as smart mobile device technology, is introduced to the market, the organizations that do not get a full advantage of it falls significantly behind (Khadiri & Fazziki, 2012). In today's highly automated and computerized way of doing business (Khadiri & Fazziki, 2012) the greatest benefits an organization can get from smart mobile devices is to standardize the approach and integrate the devices with the internal systems that would allow employees to stay connected all the time. Cavazotte et al. (2014) advocated through their study that standard, company sponsored smartphones intensify the company's ability to keep employees stay in touch with the enterprise related activities and systems while outside of regular working hours. At the same time, the researchers underline the concerns that the supervisors and managers might negatively affect employees' private lives through after hour requests and communications even though employees paradoxically ask for better

and more efficient smart mobile tools. Employers consider company issued smart mobile devices as tools that employees should use when an organization needs them while outside of the regular office, and the employees feel that they are always on call. Cavazotte et al. (2014) pointed out that the reason employees agree to be virtually on call is that the benefit of accepting the smart mobile technology is greater than the negative side of having it. In the other study, Middleton (2007) found employees that received company owned smart mobile devices thought that it empowered them and allowed them greater control and flexibility. The Middleton (2007) further reports that the additional work related activities outside of the business hours are more of a personal preference and choice than the imposed demand from the employers. On the other hand, company issued smart mobile devices increase the surveillance and control thus employees feel justified for self-imposed work connectivity fearing that the employer might be checking how many employees work while away from the office (Cavazotte et al., 2014).

Standardization will play a greater role in the Internet of things (IoT) concept where smart devices are interconnected and accessible or controlled by smart mobile devices (Bandyopadhyay & Sen, 2011). Smart mobile devices will gain immediate access to information about the physical devices and services they will provide creating more work-related activities employees will need to perform throughout each day. Without standardization in the IoT area integrating physical devices into a standard digital framework will be a challenge as Bandyopadhyay and Sen (2011) concluded in their research study. Today different networks for different purposes coexist that are not

integrated. In the future, hundreds of millions of physical devices will interact with one another forming one big network. Without standardization, the employee work may be negatively affected.

Employee Work and Quality of Life

Cavazotte et al. (2014) found out that smart mobile device availability to employees additionally creates more emails and text messages as people tend to use such devices more often but in shorter intervals of time creating a feeling of improving productivity, which translates into more working hours and increasing the workload. Smart mobile devices allow employees to stay connected and be able to take advantage of computerized automation (Khadiri & Fazziki, 2012). The device inter-connectivity provides customers with right answers or information when needed. However, the constant connectivity from any place disturbs people's personal life such as vacation or family time at the dinner table. Managers and customers do not feel guilty sending emails to employees after regular business hours because the emails do not require immediate attention as a phone call would. However, when they send such emails, they expect a reply promptly as Cavazotte et al. (2014) found in the survey. Additionally, employees feel that writing or answering emails are not real work as the analytical, or intellectual activity would be. Employees feel, the study finds, that emails cut into real work and answering them outside of the office allows them to concentrate on meaningful activities in the office. Cavazotte et al. (2014) concluded that people become slaves to technology and feel guilty if they do not look right away at the messages that arrived. People laugh at

their excessive communication practices and at the same time ask for better and newer smart mobile devices so they can use them even more.

Information systems help companies compete with other organizations and manage cost (Giannopoulos, Holt, Khansalar, & Cleanthous, 2013), improve business efficiency, and quicker adapt to fast changing markets (Serova, 2012). Fully integrated information systems are critical to getting accurate information so the managers can make timely and intelligent decisions. Physical systems can be easily measured and adjusted, but when it comes to human performance, the task of measuring productivity at work is a challenge. Employees want to succeed and when equipped with the right tools, can make significant contributions to the organization. We live in a highly competitive and multitasking environment. People want to have access to their work and personal environments all the time so they could switch between the two settings when needed. Smart mobile devices have the technical capabilities to handle both situations at the same time as long as the organization's policy is designed to support providing access to the company's back office systems from smart mobile devices. Creating a friendly and efficient environment for smart mobile device optimization requires substantial upfront investments in technology, security, and employee training but the benefits, as Son, Kim, and Lee (2014) found in their study, will exceed the cost through customer satisfaction, and ultimately employee increased productivity. Organizations need additionally invest in the back office platform so the smart mobile devices could enable the users to access smart services at any time and from any place securely (Kwak, Kim, Lee, & Yang, 2015).

Smart platforms provide regular service without interruption despite the smart mobile device type or while the users switch among smart mobile devices throughout the day.

Review of Research Methods

The scientific research methodologies fall into two major approaches, quantitative and qualitative methods of inquiry. Both approaches have their place in research and depending on the problem statement and the research questions, the researcher makes the decision which methodology would be the best approach to answering the research questions and solve the research problem (Patton, 2002). There are fundamental differences between those two, but both methods allow researchers effectively conduct the research guiding them through the entire process.

Quantitative research. In quantitative research method, surveys and experiments are the primary instruments for data collection to prove or reject the claim of the study. This method follows a numerical or statistical approach. Closed-ended questions are the primary means for probing the survey participants to get their feedback. Statistical tools are used to test and analyze the collected data to prove or reject the study concept through statistical measures. In quantitative approach researcher carefully examines his or her claims (Creswell, 2009; Groves et al., 2009) based on the collected data that was gathered from the survey to support or reject the hypotheses. Empirical study and statistical measurements are used to verify the theory under the examination. This research will assess the influence of smart mobile devices on employee work. Reviewing historical studies of similar topics for dissertations at Walden University, the studies followed both

methods of inquiry depending on the researcher's selection to best answer the research questions and draw the final conclusions. To compare the three major categories of the quantitative approach, see Table 3 that Creswell (2009) developed.

Table 3

Major Quantitative Method Strengths and Weaknesses

Strengths and weaknesses	Experimental	Quasi-Experimental	Cross-Sectional
Experiments	True experiments	Less rigorous	No experiments
Surveys	No surveys	Structured questions	Survey research
Subject assignment	Random	Non-random	Non-random
Analysis	Statistical analysis built into experiment	Approximation based on sample	Approximation based on sample
Testing	Impact of treatment	Pattern identification	Pattern identification
Application	Biological and physical sciences	Social sciences	Social sciences
Casual inferences	Strong	Weak	Very weak
Comparison	Requires to show that two variables are correlated	Variables do not have to be correlated	Variables do not have to be correlated
Manipulation of independent variable	High possibility	Low possibility	Low possibility
Internal validity	Strong	Weak	Weak
External validity	Weak	Strong	Strong
Characteristics	Subject reflects population	Subject might vary from population	Subject might vary from population
Generalization	Applicable to different settings	Might apply to different settings	Less probability it will apply to different settings
Method of control	Observations and analysis	Statistical data analysis	Statistical data analysis
Design strength	Superior	Strong	Weak
Real-life replication	Not allowed	Real-life settings	Real-life settings

Qualitative research. The qualitative research method uses open-ended questions, interviews, and observations (Creswell, 2013; Quinn Patton, 2002) for data

collections. The researcher then looks for themes, patterns, and interpretations to perform data analysis and draw conclusions. The qualitative methods are narrative with the researcher's personal values influencing the interpretation of the data from the researcher's point of view. The researcher asks open-ended questions and then listens carefully to the answers or analyzed the written answers looking for standard responses (Creswell, 2009) and ideas. From the replies, the researcher creates categories and subcategories for further analysis and interpretations (Blaikie, 2007). The final analysis provides the researcher with the research conclusion and further study recommendations. There are five major approaches to the qualitative method of inquiry as Creswell (2009) summarized in Table 4.

Table 4

Contrasting Characteristics of Five Qualitative Approaches

Characteristics	Narrative Research	Phenomenology	Grounded Theory	Ethnography	Case Study
Focus	Exploring live of individual	Understanding the essence of the experience	Developing theory grounded in data	Interpreting culture-sharing group	Analysis of a case
Type of problem	Stories of individual experience	Essence of a lived phenomenon	Grounding a theory in the views of participants	Shared patterns of culture of a group	Understanding of a case
Background	Drawing from the humanities	Drawing from philosophy, psychology and education	Drawing from sociology	Drawing from anthropology and sociology	Drawing from law, political science, and medicine
Unit of analysis	Studying individuals	Studying individuals with shared experience	Studying a process	Studying a group with shared experience	Studying an event
Data collection form	Interviews and documents	Interviews, questionnaires, observations	Interviews	Observations and interviews	Interviews, observation, documents
Data analysis strengths	Analyzing for stories	Analyzing for significant meanings, statements, descriptions	Analyzing data through coding	Analyzing data through descriptions of culture	Analyzing data through description of cases
Written report	Narrative about stories	Essence of experience	Generating a theory	Describing how culture-sharing group works	Developing a detailed analysis of a case

The reason for a qualitative approach. Rapid growth and popularity of smart mobile devices are affecting the way people work and live today (Gruman, 2012). Since there are more smart mobile devices than people on Earth (Sorensen, 2013), potentially, any working person that owns a smart mobile device is a potential member of this study's population. Since this research study sought to understand the essence of the smart mobile device user experience and lived phenomenon, the qualitative phenomenological method of inquiry was the best approach to evaluating the influence of smart mobile devices on how employees work. The influence of smart mobile devices on how employees work in the office, while traveling, and during off-hours is a relatively new subject. At the time of this writing, there were no scientific studies available that would provide the essence of the shared experience and outcome related to smart mobile device influence on how employees work. However, some articles were qualitative in nature discussing the concept of bringing one's own devices to work and using them for work-related activities or articles related to smart mobile device risk to increased cyber security breaches or intellectual property disclosure risk.

Gaps Leading to Further Study

Organizations live in constant uncertainty (Hastie & Dawnes, 2010), and executives must consider more creative ways to productivity improvements to stay competitive. Today's global and highly competitive organizations expect Information Technology to implement business solutions that provide a competitive advantage, automate daily routines, and free up people to do intellectual work (Robertson &

Williams, 2009) versus routine and mechanical work. The information revolution has created enormous smart mobile capabilities to benefit organizations and individual users. Companies must develop a corporate strategy to take advantage of mobile capabilities. The phenomenon is that the most famous digital revolutionaries such as Apple, Inc. have not invented any new things but simply brought back to life dead product categories such as music players, regular and tablet computers, portable phones, or walking dead electronic watches. They dissected and studied the causes of death in those categories to move the boundary of capabilities beyond human imagination. The new devices run on powerful software that makes them artificially intelligent or as commonly called smart mobile devices.

Employees have been building their personal digital ecosystems and access information from any smart mobile device, from any place, and at any time. The personal and work clouds are emerging and organizations struggle to determine the best steps to balance the productivity and the intellectual property protection. Some companies ban personal devices and personal clouds for work related activates which annoys the employees and prompts them to find a way around it. Other companies allow for it assuming the benefit is greater than risk. In both cases, employees vastly use both technologies for work and related personal activities, but since this trend is new, little data existed to show the relationship between smart mobile device use and actual employee work. Some studies were conducted to assess people's productivity (personal and professional). However, a significant gap existed between previous studies and

whether the way people use smart mobile devices made them more productive or their usage had a negative effect on the productivity and self-being. I searched the Walden University's electronic library for smart mobile device influence on employee work; however, as this technology is at the beginning stages of the development there were no scientific studies available that assessed the influence of smart mobile devices on employee work. I then searched and analyzed information technology consulting firms' available resources and discussed the smart mobile device influence on employee work with account managers from Gartner, Forester, and CEB. These consulting firms have conducted smart mobile device financial impact on organizations' profitability discussing the BYOD topic in great extent. Additionally, they have researched the impact on intellectual property protection and cyber security. People have been and are still willing to pay for transformational technologies (Steinert-Threlkeld, 2011) themselves. They purchase their own devices and use the together with the employee-provided devices in exchange for instant access to information and constant connectivity with others, but a gap existed in determining the effect smart mobile devices have on how employees work that this research study has addressed.

Summary and Conclusions

With the rapid development of the Internet services and inventions in the smart mobile device, area business competition has gone global presenting serious challenges to well-established companies that under-invested in smart mobile technology. They have been now struggling with being able to participate fully in the global economy.

Information systems made it possible to eliminated geographical and country borders and bring the markets and customers together no matter where they are. Organizations quickly realized that they needed to make fundamental changes to the business processes to take advantage of technological solutions to decrease cost and get closer to their customers. Any company today, whether small and local or a large and global conglomerate, can participate in the global economy; it comes down to the efficiency and productivity that can give companies a competitive advantage. System automation and instant information availability appear to be the last competitive frontier. With adequate investments in the corporate information systems, process automation, and system security, needed information could be made available to those that need it at any time, from any place, and on any device. As the smart mobile devices are now a part of our lives blending the work and personal activities together, organizations need to ensure that employees have the capabilities to be continuously linked with the corporate systems to ensure that the employee productivity is optimized.

Chapter 3: Research Methodology

Qualitative research is a highly organized process to ensure the quality of the outcome of the study, which greatly depends on the researcher (Patton, 2002) and associated skills and experience. One of the goals a researcher has is to create new knowledge. The qualitative research method mainly depends on interviews and observations to collect research data needed to analyze and determine the essence of the research. Open-ended questions were the primary means of gathering information from the study participants. Collected data analysis determines the outcome and the conclusion of the study. This research study was based on the lived experience of the selected individuals that represented a larger population. Thus, a qualitative approach was the best fit for gathering needed information from the participants to best answer the research questions. To answer the research questions, there was a need to identify and assess the causes that contributed to the outcomes, which in this case was the influence of smart mobile devices on how employees work in the office, while traveling, and during off-hours.

A qualitative phenomenological approach was the method of inquiry for this research study. Researchers use phenomenological designs to gather information from participants and code the responses to trend the phenomenon (Moustakas, 1994) within the selected population. Coding and grouping techniques helped with data interpretation to form answers to the research questions. An Internet-based questionnaire was used to collect information from the selected participants. The selected participants represented

the available population. The responses from the participants were input to Microsoft Excel software to categorize the gathered information for analysis needed to answer the research questions and provide the study's outcome. The questionnaire responses potentially additionally identify the potential need for further study considerations and further recommendations.

Research Design and Rationale

Research design depends on the problem the researcher is working on and the research questions. A scientific research design is not based on the researcher's preference but on the problem the researcher is facing. To best answer the research questions and to adequately address the problem statement the qualitative phenomenological method of inquiry with an Internet-based questionnaire (SurveyMonkey.com) as the mechanism for data collection was the approach in this study.

Qualitative phenomenological type of research inquiry follows a structured process, depends on strong external validity, and uses coding, grouping, and categorizations as a method of control. In this study, a number of participants from different mid-size organizations in the U.S. that used smart mobile devices were asked to complete the questionnaire. Each participant received the questions from the SurveyMonkey.com service. The same set of questions was provided to all of the participants to maintain consistency.

The reason phenomenological design was the best approach for this research is that other qualitative models such as narrative research, grounded theory, ethnography, or case study methods would not allow for optimizing the outcome of the study because they have not been designed to study individuals that shared the same lived experience related to the influence of smart mobile devices on how people work. The basic intent of a phenomenological design is to understand the essence of the lived phenomenon drawing from the physical sciences (Frankfort-Nachmias & Nachmias, 2008, Moustakas, 1994). It requires the researcher to perform actual study where interviews and observations serve as the method of control. The other qualitative and any of the quantitative designs would not be realistic for data collection for this research. The potential population for this research study was large; thus, the sample has been narrowed down to a small group of people that use smart mobile devices from mid-size U.S. organizations as potential and appropriate participants. Based on the nature of this study and to gather the needed information, a phenomenological approach was the best design for this research study.

As the qualitative method of inquiry has a well-developed structure (Miles, Huberman, & Saldana, 2014) the phenomenological methodology provided the vehicle to drive the data collection process directly from the participants that have lived the studied phenomenon. The phenomenological approach brought the best combination of studying the phenomenon and participant characteristics and allowed for collecting needed data

based on series of the same questions that each participant received via an Internet-based questionnaire that SurveyMonkey.com distributed.

The quantitative and mixed methods of inquiry were initially considered for this research. However, due to the large and diverse population, a qualitative approach allowed an efficient data collection to study a sample of that population's trends, opinions, and attitudes of their lived experience. The qualitative research requires the researcher's personal involvement with the participants to experience the problem under the study. The qualitative method allows for asking the participants open-ended questions to identify trends of their lived experience. The qualitative approach relies on natural settings where the researcher takes a part of the participant's life to live the experience and collect the data directly determine the behavior and examine the available materials versus relying on a uniform source of data that surveys in quantitative approach provide. A qualitative approach of inquiry allows the researcher to learn the meaning and the view the participant has about the phenomenon versus the participant's behavior that quantitative method of inquiry helps to measure. For the qualitative approach of inquiry, the researcher selects participants based on the purpose the study versus the need for random selection from many potential participants available for the study. Finally, to answer the research questions of this study, quantitative and mixed method of research were not necessary.

Role of the Researcher

The researcher is the research instrument and responsible for collecting the data in a qualitative study (Maxwell, 2013). However, it is important to structure the approach to ensure collected data is compatible across all participants. This research study was based on the phenomenological approach to be able to understand the lived experience of the selected individuals that represented the potential population. The researcher is responsible for selecting the participants, establishing the communication with the participants, collecting the research data, and deciding how to code, group, categorize, and analyze the collected data from the participants to answer the research questions, draw the conclusion, and provide potential further recommendations. The researcher is the primary source for data collection and analysis in this study. The final data interpretation is based on the researcher's skills and experience. The resercher's unconscious bias may influence the final outcome of the study. Therefore, through reflexive bracketing that I am employing in this study, I acknowledge any bias that may cause or influence this research study's outcome and conclusion.

Methodology

Researchers and scientists must focus on relevant data (Hoe & Hoare, 2012) when conducting scientific research. The advantage of conducting online questionnaire is that it allows for removing any personal influence on the participants (Barnham, 2012). The electronic questionnaire gives the participants an equal chance to answer the same set of questions at their convenience. The electronic questionnaire makes it easier for the

researcher to organize the responses together into one database for further coding, grouping, and analysis. This approach also allows for easier categorization of the data and the targeted group as Raykov and Penev (2009) suggested because there might be a need for the researcher to review and categorize the collected information. The data collection process consisted of the pre-questionnaire protocol (see Table A1), pilot study and primary study protocol (see Table A2), and post-questionnaire protocol (see Table A3) included in Appendix A.

Participant Selection Logic

Critical steps in a scientific research process are to identify the population, sampling strategy, and sample size correctly. The population is defined as the entire group of objects that comply with the research specifications (Frankfort-Nachmias & Nachmias, 2008). The challenge scientists typically face is to identify the population correctly and then select the best sampling strategy for the research type. Another important step is to decide whether the population is finite or infinite, which will help the researcher determine the right sample size and put a limitation on the amount of data the researcher will collect (Reynolds, 2007). There are some strategies for a sample design and size (Creswell, 2007); however, the qualitative method of inquiry is not as strict as a quantitative method for determining the sample size.

The number of smart phones exceeds the number of people on earth (Sorensen, 2013; UN, 2011). Any working person who uses a smart mobile device at work and while traveling was a part of the population of this study. To narrow the sample selection, mid-

size companies in the United States were the focus area for this study. The 2007 U.S. Census data was the most recent one at the time of this study and most appropriate for sample drawing. The Census showed that 2,187 mid-size companies in the United States ranged between $500 million and $1 billion in annual sales ("Middle-market company," n.d.). There were several options to obtain a list of potential participants such as through trade groups, professional groups, professional networking, school participant pools, or survey companies. The participant list was obtained from SurveyMonkey.com organization based on the mid-size company criteria. SurveyMoneky.com is a professional survey organization and obtaining the participant list from this organization will increase the probability the members of the study will respond to the questionnaire in a timely manner. The organization keeps a large database with potential participants that fit this study's criteria. SurveyMonkey.com will allow the study to be anonymous while collecting the answers from each participant.

Researchers must be careful when selecting sample size to ensure that the sample objects best represent the entire population. It is imperative to focus on relevant data collection (Hoe & Hoare, 2012) to minimize and eliminate possible errors as Frankfort-Nachmias and Nachmias (2008) pointed out. To make data meaningful, the researcher needs to set correctly up proper sampling strategy and select an adequate number of the participants.

The sampling strategy depends mainly on the type of the study the researcher is undertaking. The sample size is critical to ensure that enough objects are included in the

study to represent the entire population. Frankfort-Nachmias and Nachmias (2008) categorized sampling into nonprobability and probability sampling categories. There are three top designs within nonprobability samplings such as convenience samples, purposive samples, and quota samples. The probability sample design consists of four designs such as simple random sampling, systematic sampling, stratified sampling, and cluster sampling. The main difference between nonprobability and probability sample design is that the nonprobability design cannot ensure that each unit will take part in the sample, and the probability model provides the ability for each sampling unit to be included in the sample (Frankfort-Nachmias & Nachmias, 2008).

The population for this qualitative phenomenological study consisted of Fortune 1000 company employees living in the United States that used smart mobile devices at work, while traveling, and during off-hours. The U.S. Census data showed that 2,187 mid-size businesses in the U.S. ranged between $500 million and $1 billion in annual sales ("The mighty middle," 2012). The plan was to use a purposive sampling approach to select the participants from the available population for the study. The sample size was 20 participants or until data saturation occurred. Microsoft Office software was used to store and analyze the questionnaire data.

This research involved collecting data from the participants related to smart mobile device influence on how employees work. I have written the questions specifically for this study that are included in the Appendix F. Two participants helped with pilot testing the questions and instructions before distributing the questionnaire to

the rest of the actual participants of this study. Some personal information was a part of the inquiry process. Each participant received the implied consent information, included in Appendix E, to ensure them that the study remains remain anonymous, and the request for participation, included in Appendix C. The personal information included but was not limited to authenticity, personal privacy, and personal disclosure. Protecting personal data was a high priority for this study to ensure that the participants' confidential information that could worsen employee-employer relationship was anonymous. As the questionnaire participants were employees of the professional organizations, the assumption was that they were competent to answer the questions. The participants received additional information to advise them that the participation in the study was voluntary giving them the freedom to choose whether they wanted to participate or not. The assumption was that selected participants would provide valid information and answer the questions without personal bias. The goal was to collect information to describe the participants lived experience and answer the research questions; thus, anonymity was provided by separating the individual information from the answer they provide. SurveyMonkey.com organization performed the personal identification separation from the answers to ensure the personal identification information was not made available to the researcher. I did not offer any compensation for completing the questionnaire.

Instrumentation

Measurements in scientific studies serve as tools to compare different phenomenon. In the qualitative method of inquiry, researchers assign codes to the pieces of information they want to analyze based on logically established rules and criteria. Scientists use codes and categories to group and clarify the relationship among different pieces of information (Frankfort-Nachmias & Nachmias, 2008) to perform detailed analysis. Codes and categories help scientists increase accuracy as well as validity and reliability of the collected data. The scientists; however, must be careful when collecting data because the amount of data available is infinite (Reynolds, 2007) and some participants will provide more information than asked for or unrelated information. The tendency is to collect more data than needed; therefore, there must be a point where the scientists need to stop collecting data. Also, researchers must focus on relevant data (Hoe & Hoare, 2012) to prevent from widening the scope and increasing complexity.

Electronic open-ended questionnaire (using SurveyMonkey.com) was the primary vehicle for data collection for this research. The questionnaire had five sections and took approximately 20 minutes to complete. Section 1 related to the smart mobile device(s) information. Section 2 through Section 4 pertained to the research questions related to the smart mobile device use in the office, while traveling, and during off-time. Section 5 refered to the participant's background, type of business, and the position they held in the organization. The first four sections had five questions each, and the last section had six questions. Each participants received the questionnaire with the same set of questions and

was asked to complete it by the predetermined due date. The questionnaire included a brief information explaining the reason and the importance of the study. The reason for using an electronic method to collect the data was that it was easy to use, quick in distribution and data import into the database, and relatively inexpensive. It also removed the bias from the process as the researcher, and the participants did not know each other. The major weakness of an electronic questionnaire is that it removes the human touch, increases the possibility of misunderstanding the questions, and might have errors and missing data. The participants received the request to answer the questions electronically; thus, the response rate was expected to be lower than anticipated; however, SurveyMonkey.com kept distributing the questionnaire until agreed number of participants completed the questionnaire.

After establishing the communication with the survey participants via email, Microsoft Excel database allowed for running a report to determine the participation rate and whether there was a need to follow up with the participants that failed to respond promptly. The plan was to contact nonparticipants up to three times before moving on to the next group of participants until data saturation is satisfied but SurveyMonkey.com was very effective in obtaining the minimum number of participants.

Pilot Study

The influence of smart mobile devices on how employees work is important to executives and managers. More engaged employees contribute to the success of the company. Executives and managers are willing to invest in technology if there is a

positive return on such investments. The challenge of this study was to determine effectively whether smart mobile devices influence the way that employees work in the office, while traveling, and during off-hours.

The purpose of the pilot study was to test the questions and the instructions to ensure the participants understood them and whether they had provided adequate information to answer the question (Maxwell, 2013). I have selected two pilot participants from my LinkedIn contact list. Both participants worked for mid-size U.S. based companies. They have first received an email from me asking them for the pilot study participation. I had also provided them with a general information about the study. A copy of the email is included in Appendix B. The pilot study participants were not part of the main study.

Both participants replied to the email with their agreement to participate in the study. I replied to their emails with the link to the questionnaire hosted by SurveyMonkey.com and a copy of the consent form (see appendix D). I asked each participant to complete the questionnaire at their earliest convenience and both responded within one business day; therefore, there was no need to search for additional participants from the available list to fulfill the two-participant requirement for the pilot study.

After receiving the pilot results, I performed a detailed analysis of the responses and concluded that the pilot study results were sufficient to answer the research question. Additionally, I contacted both pilot participants individually and discussed the email information, consent form and the information within the form, and the actual pilot

questionnaire to ensure the contents were clear and sufficient for them to answer each question and complete the pilot questionnaire. Both participants indicated that they did not have any challenges to complete the questionnaire and that the instructions and the information provided to them were clear and reasonable. Based on the feedback from both pilot study participants, I concluded that the instructions and the questions in the final questionnaire for the main study did not need any changes or adjustments. I proceeded to the main study phase.

Questionnaire

Assuring the questionnaire is a critical step of the research such that the researcher can draw meaningful information from the answers. The questions in the questionnaire derived from the research question. The general assumption was that the participants did not have any reason to provide incorrect information but answer the question to the best of their ability. Nevertheless, obtaining the most accurate answers was the primary focus, to ensure that the items the questionnaire intended to determine are providing relevant information. The pilot study helped to ensure the approach optimal for this research and there was no need for adjustments to the consent form, instructions, and the questionnaire.

This research evaluated the influence smart mobile devices had on how employees work. Smart mobile technology is a relatively new subject that lacks scientific studies to determine the influence of this transformational technology on how employees work. The questionnaire was developed with the specific audience, the participant

background in mind to ensure the audience benefited from the study, and the participants truly understood the intent of the questions. Each question directly related to the objectives of the study to maximize the outcome of the research. The question development process was two steps. First, the questions were drafted and then tested through the pilot study to ensure the questions are relevant to the subject, if they would help with determining the influence of smart mobile devices on how employees work, and if they were detailed enough to collect the needed information. Once the questions were finalized, the questionnaire format and content was ready for obtaining approval from the Institutional Review Board (IRB) to proceed with the study.

Two pilot participants, that were not a part of the sample, were asked to answer the questions to ensure the study consistently evaluates the influence of smart mobile devices on how employee work. The two participants represented approximately 10% of the participants of the main study. The questionnaire distribution to the sample was on-line via a link in the email each participant received. The attached in the e-mail cover letter provided the participants with the web address to the questionnaire. Each participant was asked to answer the questions within 2 weeks to speed up the research process and provide the participants with the period of the data collection process. There was no reason to believe that the participants would not answer the questions truthfully and to the best of their ability. As each participant received an identical set of questions, it was relatively easy to collect the data and measure whether all the questions have been answers. Any questions with missing answers were coded and stored in the database to

determine the response rate to each question and whether a follow-up with the participants that omitted some answers was needed.

Procedures for Recruitment, Participation, and Data Collection

A sampling strategy that includes the participant selection, type of sampling and the sample size is critical to the research success. Sampling is one of the most important steps in a research study. It requires carefully selecting participants, settings, and processes (Miles, Huberman, & Saldana, 2014). Sampling in qualitative approach is selective and purposeful (Maxwell, 2013; Miles, Huberman, & Saldana, 2014; Patton, 2002). The strategy for this research study was to obtain a list of potential participants from SurveyMonkey.com that work for mid-size U.S. companies in the U.S that use smart mobile devices at work, while traveling, and during off-hours. SurveyMonkey.com maintains a database with different types of potential participants and can easily generate a list of participants that are information-rich and experienced in the area that matters to this study. The sample size of 20 individuals or until data saturation occurred, was determined as adequate for this qualitative phenomenological study based on researchers such as Creswell and as noted in other Walden dissertations. This sample of the participants represented the population of interest in this study.

The list of the participant answers was imported into Microsoft Excel database for coding each record and adding more columns for sorting and filtering purposes. The approach was to purposely select defined number of participants from the total number of available employees that fitted the above-described characteristics that would adequately

represent the heterogeneity of the population (Maxwell, 2013). This approach allowed for tracking how participants responded as well as the response rate. The sample size for the qualitative study was not as critical as the data saturation occurrence to ensure that enough information was collected to adequately find the trends and compare differences among individuals and setting to answer the research questions.

The rationale for this sampling strategy was that participants were from a group of people representing the same lived experience as Maxwell (2013) suggested for the phenomenological approach. Therefore, grouping participants into this category allowed for further analysis to eliminate significant differences in the way the questions were answered based on the management status or the role the participants played in their organization. Also, purposive sampling reduces research time and cost considerably (Frankfort-Nachmias & Nachmias, 2008), which allowed collecting needed data and complete the research quickly and effectively. The weakness of this strategy might be that certain management levels might have provided higher questionnaire return rate than the others. The challenge was to ensure that most of the targeted participants responded and agreed to provide their answers to the electronic questionnaire. SurveyMonkey.com obtained additional participants from their database to deliver the minimum results. It was not the intention to draw a significant number of potential participants, but additional names were available to backfill the non-responding participants to reach the total of 20 participants or until data saturation occurred.

Geographic Location

The popularity of smart mobile device has spread throughout the world to the point that the users of such devices are in all in the locations where the Internet service is available such as in large cities, small towns, and distant villages despite whether the locations are in well-developed or emerging countries. However, for this research, participants were selected from the available population of employees that worked for the mid-size companies based in the Unites States. The list of the potential participants was based on these research requirements.

Restatement of the Research Questions

The three research questions for this study are as follows:

RQ1: What is the influence of smart mobile devices on how employees work in the office?

RQ2: What is the influence of smart mobile devices on how employees work while traveling?

RQ3: What is the influence of smart mobile devices on how employees work while during off-hours?

Data Collection

SurveyMonkey.com was used to collect data from the participants. One of the critical steps of analyzing data from the qualitative type of questions is to identify patterns and trends (Frankfort-Nachmias & Nachmias, 2008); however, the challenge was that there are no methods that would ultimately satisfy the final recommendations or

findings (Surber, 1984). Collected data from SurveyMonkey.com was downloaded into Microsoft Excel database to allow for performing necessary cleanup and preparation for further analysis. This computerized program provided an organized storage file system allowing the researcher to quickly locate materials as well as store data in one place for easy retrieval when needed. The collected data was stored on a password-protected computer. Additionally, files stored electronically were backed up to a password protected external drive to prevent from unauthorized access to the collected information. Upon completion of the study, the collected data from the participants was stored on a passcode-protected external disk up and will be kept for up to 5 years after which the information will be deleted.

Data Analysis Plan

The collected data analysis is typically viewed as the second part of the study (Maxwell, 2013). The researcher collects the necessary data from the participants and then needs to make sense out of the collected pieces. The strategy for this research was to code and categorize the data as it became available versus waiting until all participants completed the questionnaire. This approach was to allow for organizing the collected information into the categories and storing it in the database to help the researcher recognize similarities and differences among the participants. This approach also would allow for separating out the relevant from irrelevant data and help me with the final analysis. To extract the meaning of the text that the participants returned in the form of answers, open coding strategy helped with categorizing the responses. The reason for

using open coding was that as data became available new items could have surfaced, and I would need to go back to older data to analyze it again and re-categorize as needed. The advantage of computerized software is that it helped me identify common codes and link defined categories and concepts together based on their properties and dimensions. Computerized programs make it easier to move pieces of data among categories. One important aspect of the electronic programs to keep in mind is that they cannot replace the researcher's thinking and analytical skills. It is the researcher's responsibility to correctly analyze the collected data, interpret it, answer the research questions, and draw the conclusion and further recommendations.

Issues with Trustworthiness

The participants cannot feel threatened when answering questions (Patton, 2002). Privacy and confidentiality must be in place so the participants can provide the insights into the situation from their perspectives. A written privacy statement to all participants was very important to advise them that the questionnaire is anonymous. Furthermore, the researcher must be sensitive to any personal and confidential data that might become available during the data collection process. Thus, data access and security are a critical aspect of the research. It is the researcher's responsibility to ensure that unauthorized personnel is not allowed to view data that might raise personal privacy issues. Finally, some data that the employees could provide, although not asked for in any of the questions, might result in personal problems between the employee and the supervisor or community if exposed, thus, cannot be made available to anyone.

Credibility

Credibility is essential in scientific research. Any mistakes or errors will question the credibility and the entire research validity. Performing scientific research requires the researcher to follow certain steps in a very organized way (Patton, 2002) to ensure research quality, trustworthiness, and credibility. Credibility is the highest level of trust that a person cannot buy but must earn. Quality, reliability, and credibility come with training and experience (Patton, 2002) and the recognition that each person has a bias so the bias can be acknowledged and minimized. The qualitative research method is a challenging process as most data comes from participants' opinions and the interpretation of the data is dependent on the researcher's skills and experience. Since each researcher may look at the collected data from different perspectives that depend on the researcher's background, training, and experience, the results might differ from one researcher to another.

It is important that the data collected from the participants is credible and accurate. It would be beneficial to follow the member checking process, which is to give the participants a chance to review and revise if needed the original data (Buchbinder, 2011). However, the participants used an on-line questionnaire distributed by SurveyMonkey.com to provide the answers electronically, and I reserved the option to contact the participants for member checking purposes if needed. I used the pilot study to identify any misunderstanding on the participant's part and adjusted the questions accordingly.

Transferability

Transferability is one of the strengths of phenomenological approach (Frankfort-Nachmias & Nachmias, 2008) when the population is relatively large. The most important aspect for applying qualitative phenomenological design is that the selected samples must reflect the characteristics of the entire population (Frankfort-Nachmias & Nachmias, 2008) because the patterns identified from studying samples are approximated to the entire population. Equally important were the actual questions that the participants were answering. Frankfort-Nachmias and Nachmias (2008) also pointed out that researchers must ensure that the questions are neutrally worded and do not influence the answers. This study related to any employees that use smart mobile devices at work, while traveling, and during off-hours. Thus, the study process may be transferred to another sample of the population, even if the findings may not be.

Dependability

The primary focus of this study was to determine and conclude the influence smart mobile devices have on how employees work in the office, while traveling, and during off-hours. The researcher must keep in mind that each set of data came from a different participant that could have lived the same experience in a slightly different way. Each participant might have a different level of experience and understanding of the question. Thus there is a need for the researcher to review the answers several times to ensure a thorough understanding of the collected data. The other intrinsic factors such as history, maturation, experimental mortality, and instrumentation selection do not play a

significant role in the phenomenological design in this research study and do not pose a meaningful threat to dependability.

Confirmability

Confirmability refers to the researcher's ability and skills. Each researcher brings different perspectives to the study and the data interpretation. The first step to ensuring confirmability was to conduct the pilot study for this research to test the questions each participant would receive as the part of main study. The pilot study also provided feedback on the questionnaire instructions to ensure each participant learned about the study's objectives and understood the instructions to best answer the questions. Additionally, the dissertation committee members served as trusted advisors and reviewers of the study and the feedback from the members added to the confirmability process. SurveyMonkey.com provided the participant list. The company maintains a detailed database with categorized participants based on the characteristics I was looking for helping decrease the possibility of selecting irrelevant or wrong participants.

Ethical Procedures

The participation in the electronic questionnaire for this study was voluntary and anonymous. The access to the answers was strictly limited to minimize any concerns. The privacy security and data handling process are important to the participants. The details were provided to the participants in the instructions. It is important to note that the questionnaire did include questions related to sensitive information about the company, culture, office politics, or personal non-work related information except for what was

known to the organization to minimize stress or emotions. SurveyMonkey.com administered the participant identification, questionnaire distribution, and data collection process and did not provide the researcher with any information that could identify the participants. The final report did not contain any company name and participant personal information should the participants include such information in any of the anwers. Privacy was critical to this survey success.

Summary

Qualitative research is a highly organized process to ensure the quality of the outcome of the research, which also greatly depends on researchers and their skills and experience. The reason phenomenological design was selected as the methodology for this study was that other designs such as narrative research, grounded theory, ethnography, or case study as well as quantitative methods would not allow for optimizing the outcome of the study as this study sought to evaluate lived experience of a limited number of participants that represented the population of this phenomenon. The on-line questionnaire was the method of inquiry that allowed for removing any personal influence that the electronic questionnaire gave each participant an equal chance to respond to the same set of questions. The electronic questionnaire made it easier to pull all responses together into one database for further evaluation and analysis. A confidentiality statement was provided to each participant to ensure that personal information collected was secure and prevented from releasing or making it publically available. The 2007 U.S. Census data was used to select participants for the sample from

about 2,000 mid-size companies in the United States that ranged between $500 million and $1 billion in annual sales. Content testing was used to ensure that the items the questionnaire intended to gather were providing relevant information.

Chapter 4: Results

The purpose of this qualitative phenomenological research study was to explore the lived experiences of the influence smart mobile devices have on how employees work. I created the questionnaire specifically for this study, thus it was necessary to pilot test the questions and the instructions prior to the main study because no similar questionnaire was available. I identified and contacted the two pilot participants to ensure the questions and the instructions for completing the questionnaire were clear and understood. The goal of this study was to explore and provide lived experiences of the smart mobile device users and answer the questions how such devices influenced the way employees work when in the office, while traveling, or during the time-off.

This chapter includes the results of the research methodology and the findings from the study as detailed in Chapter 3. I contracted SurveyMonkey.com to select the participants, administer the questionnaire, and collect the feedback. The participants were selected based on the study criteria described in the population section in Chapter 3. There were 21 final resources that participated in this study and provided feedback of their lived experience by answering the questions that SurveyMonkey.com distributed. This chapter includes the study results from the data analysis and themes that emerged during the study. The main sections of this chapter are pilot study, research setting, demographics, data collection, data analysis, evidence of trustworthiness, study results, and the chapter summary.

Pilot Study

This research study covered a unique topic that is new. After searching for similar studies and not being able to find one, I created a series of questions and put them into five sections of the questionnaire. As the questions were created specifically for this study and were not previously tested for clarity and understanding, it was necessary to perform a pilot study to ensure the participants understood the instructions and each question and answered them to the best of their ability to obtain best feedback from the participant's lived experiences. Two participants that were not a part of the main survey were selected for the pilot study. The pilot study participants were contacted via email and asked to read the instructions (see Appendix C) and complete the questionnaire (see Appendix B) within 1 week. A link to the questionnaire on the SurveyMonkey.com website was included in the email (see Appendix D) for easier access.

Both participants responded to the questionnaire within the provided time and answered all the questions in the questionnaire. From the pilot study, it became clear that the participants had a good understanding of the instructions and the questions and there was no need for adjustments. In addition, there was no need to change the approach to the data analysis strategy. The pilot study helped to confirm that the email communication, instructions, and the questionnaire were clear and the participants would not have a problem with understanding the questions and providing the information directly related to the subject of this study.

Research Setting

The qualitative phenomenological study methodology required selecting participants from the available participant population. SurveyMonkey.com organization helped organizing and setting up their survey service and provided the mechanism for selecting the participants, providing access to the questionnaire to the participants, collecting the responses, and storing the information in a secured area for further analysis. There were no identified organizational conditions that would possibly influence the participants or their lived experience at the time of the study. The participants were asked in the communication section of the questionnaire to read the study instructions, proceed to the questionnaire on SurveyMonkey.com's website, and answer the questions based on their lived experience. The participants were asked to provide feedback to the questionnaire at their earliest convenience. Each participant had the freedom to decide the best time of a day and the best surrounding when answering the questions. There were no known changes in the participants' personal or professional life or participant's bias that could affect the way they answered the questions that could influence the interpretation of the data and the outcome of the study. The participants were extremely prompt with providing the feedback and completed the questionnaire within two days from receiving the invitation to participate. It allowed for immediate availability of the data for analysis.

Demographics

The number of smart phones has exceeded the number of people on earth. Any working person who uses a smart mobile device at work, while traveling, and during the off hours was a part of the population of this study. To narrow the participant selection, mid-size companies in the United States were the focus area for this study. The sample size of 21 participants was used for this study. The demographics for this study consisted of the gender, age range, job level, travel amount, technology acceptance level, and the smart mobile device experience. The participants in this study were divided 57% male and 43% female. The participant age ranged in categories from 21 to 59 years of age. Most of the participants, 52%, were in the 30-39 age category. The age group 50-59 accounted for 19%, and the 21-29 and 40-49 age categories equaled to 14% each. The job level ranged from Owner/CEO down to the entry-level employment with the middle management category amounting to 43% of the sample. The travel amount ranged from weekly to no travel at all with the monthly category being the largest at 47%. The technology adaption was equally divided between early adaptor and average adaptor. The largest group of the participants felt into the neutral category or 33% regarding whether that smart mobile devices were disruptive to them. Table 6 includes the summary of the demographic data of the participants in this study.

Table 5

Demographic Statistics

Category	Number	Percentage of Total
Gender		
Men	11	52.38%
Women	10	47.62%
Age		
20 or younger	0	0%
21 - 29	3	14.29%
30 - 39	11	52.38%
40 - 49	3	14.29%
50 - 59	4	19.05%
60 or older	0	0%
Job level		
Owner/CEO/C-Level	2	9.52%
Senior Management	4	19.05%
Middle Management	9	42.86%
Intermediate	4	19.05%
Entry Level	1	4.76%
Other	1	4.76%
Travel for Work		
Weekly	4	19.05%
Monthly	10	47.62%
A few times per year	3	14.29%
Less than a few times per year	1	4.76%
Does not travel for work	3	14.29%
Technology Adapter		
Early Adapter	10	47.62%
Average	10	47.62%
Late Adapter	1	4.76%
Smart Mobile Device is Disruptive		
Strongly Disagree	3	14.29%
Disagree	4	19.05%
Neutral	7	33.33%
Agree	5	23.81%
Strongly Agree	2	9.52%

Performing additional demographics analysis, the collected data showed that smart phone was the primary smart mobile device (100%) the participants used. Almost half or 48% of the participants used two devices and 62% used their personal smart phone as the primary smart mobile device.

Data Collection

The purpose of collecting data for this study was to gather information related to smart mobile device influence on how employees work from selected participants to answer the following research questions:

RQ1: What is the influence of smart mobile devices on how employees work in the office?

RQ2: What is the influence of smart mobile devices on how employees work while traveling?

RQ3: What is the influence of smart mobile devices on how employees work during off-hours?

The SurveyMonkey.com has distributed and administered the questionnaire. The questionnaire stayed opened for 3 days and 21 participants responded before closing the data collection process, therefore all data analysis in this chapter and Chapter 5 are based on the actual number of participants (21) versus the initial plan of 20 participants. The research questions formed the basis for the participant questionnaire to gather relevant information from the selected sample participants. The questions were tested during the pilot study to ensure participants understood each question clearly.

The smart mobile devices have become very popular and widely used throughout the world for work and personal related activities each day regardless of the time of the day and location providing Internet service was available. Given the large population of the smart mobile device users the most appropriate and effective way to collect data for this study was through carefully developed questionnaire and selection of relevant participants that SurveyMonkey.com administered and distributed with the instructions versus the traditional face-to-face interviews. The participants answered the questions that SurveyMonkey.com service collected, first from the two pilot participants and then from the study participants. The data collected during the pilot study is not a part of the final analysis. This methodology allowed the participants to answer the questions at their convenience based on their lived experience. The electronic data collection eliminated the need for in person meetings decreasing the possibility of bias. The exact questions that each participant received are in Appendix F of this study. There were no changes to the questionnaire structure as the result of the pilot study. The pilot participants felt that all questions and instructions were clear.

The questionnaire consisted of five sections. The first section of the questionnaire was related to the basic information about the smart mobile devices the participants were using. The second section contained open-ended questions related to the way the participants were using smart mobile devices at work. The third section contained open-ended questions related to how the participants were using the smart mobile devices for work related activities while traveling. The fourth section contained open-ended

questions related to how the participants were using smart mobile devices for work related activities while on vacation or off-hours. The fifth section contained demographic questions about the participants.

Data Analysis

The goal for this research study was to collect data from 20 participants or until data saturation occurred to answer the research questions to find out the influence smart mobile devices have on how employees work. When the same answers keep appearing with very little or no difference it is a good indication that the collected data reached the point of saturation and there is no indication that new or different responses will become available if the data collection was to be continued. After the successful pilot study and feedback from the pilot participants, I authorized SurveyMonkey.com to distribute the same set of questions to all participants with the questionnaire instructions, benefits of doing this study, and the consent form and asked them to answer each question on the SurveyMonkey.com secured website. The original plan was to distribute the questionnaire to 20 participants and start data analysis as the questionnaire answers became available. I finalized the questionnaire for the distribution at 9:15 pm on April 25, 2017 and by paying $112 for the service authorized SurveyMonkey.com organization to start the distribution of the questionnaire package and the data collection process. To my surprise, 11 of the 21participants completed the questionnaire that night and the remaining 10 participants competed the questionnaire by 9:07 am the next day. Such a quick response did not allow me to start the data analysis when the first responses were

available due to the time of the night. The reason 21 participants versus 20 targeted participants responded to the questionnaire was that I had paid for 20 complete questionnaires but two final participants were working on answering the questions at the same time, therefore both (the 20th and 21st) were included in the final count.

Upon the questionnaire completion, I logged in to my password-protected account on SurveyMonkey.com's website and started the data evaluation to ensure that the 21 responses were enough; otherwise, additional number of participants would have to be added to the data collection process. I scanned through the answers in each section of the questionnaire and recognized that the same or similar responses were common throughout the collected data. I have concluded that the 21 participants provided enough similar feedback to reach data saturation and there was no additional information that more participants would provide. For instance, the common response in the when in the office section of the questionnaire to the question: "What is your employer's view/practice related to you using smart mobile device(s) throughout the day at work?" was that the employers did not pay attention to whether employees used smart mobile devices throughout the workday. The similar responses were: "They don't mind," "No problem," "Normal because I do a lot of work things with my device." A few answers indicated that the employees were not to use smart mobile devices while at work but the policy was not enforced. I have not envisioned receiving any other significantly different responses if I were to continue receiving feedback from additional potential participants. The common responses in the while traveling section of the questionnaire to the question:

"How important is it to have your smart mobile device(s) with you (for work related purposes) when you are traveling?" was that having the device available was very important to stay in touch with work and others. Common responses were "Extremely important," "to keep informed of changes," "it helps me to connect to the work easily." Some of the responses were to indicate that people do not use smart mobile devices for work related activities but to check flights, schedules, or play games. When analyzing the "off-hours" section of the questionnaire, common responses also surfaced throughout the section. The participants felt that it was very important to them to have the device turned on all the time to check emails, stay connected with others, and use variety of apps. The answers did not indicate that the participants performed significant work related activities but used the device to stay informed. Therefore, performing high-level analysis for data saturation throughout the questionnaire helped me conclude that the responses were similar enough to indicate that expanding to more than 21 participants for data collection would not provide any significantly different responses or feedback.

The SurveyMonekey.com service was helpful for quickly identifying needed participants, fast collecting information in a questionnaire format, and performing high-level statistical analysis related to the demographics but does not analytical capabilities at the time of this study to identify themes or patterns needed for this qualitative study. To perform data clean-up and data preparation for qualitative analysis, I downloaded the collected information into my own database on my computer. The data cleanup helped me to prepare the information for coding and categorizing process and the final analysis.

This approach also allowed me to organize the collected information into categories and secure it in the database on my computer. I could recognize similarities and differences among the participants' responses. This approach has also allowed me to separate out the relevant from irrelevant data and helped me with the final analysis.

To extract the meaning of the text that the participants returned in the form of answers, I used open coding strategy to categorize the responses. The reason I used an open coding technique was that as I was studying the available data new items surfaced and I went back to already analyzed data chunks and re-analyzed it again to adjust the categories. Computerized database made it easier to move pieces of data among categories.

In the process of data analysis, I could recognize common themes and categorize the data accordingly. Since the questionnaire consisted of open-ended questions, the data coding and categorization was not as simple as initially expected because of each participant's writing style to express his or her lived experience. However, after reviewing and analyzing each answer several times common themes started to form. Although the data saturation occurred early during the analysis process, I decided to use the responses from all 21 participants to ensure I have not excluded any important or different from the other participant's information.

Evidence of Trustworthiness

The data collection through the electronically distributed questionnaire makes it easier for the participants to provide their feedback and not feel threatened when

answering questions. Privacy and confidentiality has been my high priority and I have explained it in the instructions that I emailed to the participants prior to completing the questionnaire. I advised each participant that it was their decision whether they wanted to disclose private information in the questionnaire or not. The written note to the participants also notified them that the final reports would not reveal any names or the details of the collected data.

Credibility

The participants used an on-line questionnaire distributed by SurveyMonkey.com to provide the answers electronically. I have reserved the option to contact the participants for member checking purposes but since the pilot study did not spot any misunderstandings on the participant part, there was no need for the follow-ups. The data collection for this study was a challenging process because all data came from the participants' opinions based on their lived experience. In addition, the interpretation of the data in this study dependents on my skills and experience. I have not talked to any of the participants, which reduced the unintentional bias. Each participant answered the queations as asked and none of them contacted me back. I did not have a reason to belive that there was any challenge or possibility for not getting credible information from the participants.

Transferability

Transferability is not one of the strengths of phenomenological study due to the relatively large population available for this research. However, the selected sample

closely reflected the characteristics of the entire population because the patterns that I identified from studying my sample could be approximated to the entire population. The questions were neutrally worded and were not designed to influence the answers. The pilot study confirmed that the questions were clear and easy to understand.

Dependability

The primary focus of this study was to determine and conclude the influence smart mobile devices have on how employees work in the office, while traveling, and during off-hours. Although each set of data came from a different participant, each person might have lived the same experience in a slightly different way. It is imperative that each participant had a different level of experience and understanding of the questions. I reviewed each answer several times to ensure a thorough understanding of the collected data.

Conformability

This is my first scientific study and brings different perspectives to the data analysis and interpretation than an experienced researcher. However, conducting the pilot study for this research to test the questions each participant was asked to answer contributes to the study conformability. The pilot study provided valuable feedback on the questionnaire instructions and confirmed that each participant was clear about the study's objectives. The pilot study also confirmed the participants understood the instructions to best answer the questions. Additionally, the dissertation committee

members served as trusted advisors and reviewers of the study and the feedback from the members added to the conformability process.

Study Results

Smart mobile devices have become a part of peoples' life and significantly contributed to the "always on" culture where users turn to their smart mobile device intuitionally at any time and in any place. The purpose of this chapter is to present the results of the collected data during the questionnaire process. To make sense out of the collected data, I used open coding technique to organize and sort the information for final analysis. It was a 2-step process to create the final codes. The first step was to establish a few codes derived from the conceptual framework, the research questions, and the problem statement. The second step was to read and analyze each data point and create additional codes that emerged from the collected information. Based on the two steps and the refining of the codes process, the final code list emerged to address the three research questions.

Research Questions

RQ1: What is the influence of smart mobile devices on how employees work in the office?

RQ2: What is the influence of smart mobile devices on how employees work while traveling?

RQ3: What is the influence of smart mobile devices on how employees work during off-hours?

The questionnaire was designed to evaluate the influence of smart mobile devices on how employees work in the office, while traveling, and while off-hours. Through the detailed evaluation and analysis of the collected data, the information was coded and grouped into themes.

Themes

After applying pre-designed coding to categorize the collected data additional themes emerged. As the result, the collected information was grouped into ten themes that are summarized in Table 6.

Table 6

Themes and Definitions

Theme	Description
Always on	Participants indicated that they are continuously connected.
Technology adoption	Participants did not have any significant difficulty to use smart mobile device features and capabilities.
User behavior	Participants frequently turned to their smart mobile device(s) throughout the day.
While in the office	Participants use their smart mobile device(s) at work in the office for work and personal reasons
During off-time	Participants use their smart mobile device(s) for work and personal reason during off-time
While traveling	Participants use smart mobile device(s) for work and personal reasons while traveling.
Staying in touch	Being connected with work, family members, relatives, and friends is very important to the smart mobile device users.
Employers' view	Most of the employers allow smart mobile device use for personal reasons and only small number of employers had a policy against personal use but the policy was not enforced.
Cyber security	Participants felt that cyber security was the employer's responsibility to ensure the devices were secured.

Based on the participant responses to the questionnaire and grouping the answers into themes further analysis of each theme is necessary to evaluate the meaning of each response.

Theme 1: Always on. A new culture of *always on* emerged with the smart mobile device popularity. The participants stressed out that their smart mobile device is very important to them and they need it with them all the time. When asked how they would feel if their smart mobile device was taken away from them, they responded that they

would be lost and disappointed. Twelve out of 21 or 57% of the participants would feel bad and four participants were neutral if they were to lose their smart mobile device stating. Some participants expressed it as follows: “I’ll feel lost,” “I would be lost without my phone,” “… fee terrible if lost my smart phone,” “Helpless and crippled,” “lost and missing something.” The major reason for being disappointed if they were to lose their smart mobile device was that the device holds important to them information, “Very bad all the information is there.” In addition, the smart mobile devices serve as mobile computers and cost a lot of money. A supporting response was, “I would be disappointed that I spent all of that money and now it’s gone, gone, gone.” Only five participants felt that it would not be bad if they were to lose their smart mobile device stating “cool,” “very nice,” “no worries.” Table 7 contains the summary of the feedback related to losing the smart mobile device.

Table 7

Lost Smart Mobile Device Statistics

Feeling when lost the device	Number	Percentage of Total
Positive	5	23.8%
Negative	12	57.1%
Neutral	4	19.0%

Theme 2: Technology Adoption. New technologies are typically challenging to the users when first introduced. However, in the case of smart mobile device acceptance, the participants indicated that the devices were easy to use and adopt. Nearly all the participants or 95.22% fell into the early or average adopter category. Only 4.78% of the

participants were in the late adopter category and they took time to start using new smart mobile technology. The participants felt that smart mobile devices are "amazing," "excellent," "… I love it," "Very comfortable." Based on the feedback regarding their experience with smart mobile devices three groups emerged. The major group, or 66.7% of the participants were very positive about their experience with smart mobile devices, 23.8% were neutral, and only 9.5% of the participants expressed their challenges or difficulties with using smart mobile devices. Table 8 contains the summary of the adoption feedback.

Table 8

Smart Mobile Device Adoption Statistics

Smart mobile device experience	Number	Percentage of Total
Positive	14	66.7%
Negative	2	9.5%
Neutral	5	23.8%

Theme 3: User Behavior. Smart mobile device availability and the *always on* culture has been eliminating the boundaries between work and personal life. Users use smart mobile devices for all activities at any time of a day. When asked about their view regarding using smart mobile device at work for personal reason 11 participants or 52.4% felt that it was fine to use the device for personal reason while at work but not to abuse it. Some of the responses were, "Don't abuse the privilege," "Only in emergency." Table 9 contains the summary of the participants' view and experience with using smart mobile devices at work for personal reasons.

Table 9

Smart Mobile Device use at Work for Personal Reason

Usage for personal purpose	Number	Percentage of Total
Yes	11	52.4%
No	7	33.3%
No answer	3	14.3%

Theme 4: While in the Office. The typical workday in the office has not changed significantly; however, employees have more ways to complete their tasks and communicate with others. Smart mobile devices are changing the way people work. Prior to the mobile device availability, email through office computer and office phone were the primary ways employees made connections with others outside of their office. Nine participants or 42.9% used smart mobile devices to communicate or keep in touch with others via email or text messaging. Some of the responses were, "to stay in contact with my family", "I use it to send email,…," "Just to check messages in case something happens." Four or 19% of the participants used their smart mobile device to make phone calls despite the office phone availability due to programmed phone numbers in their smart mobile device, thus no need to dial the numbers manually. Some participants used the smart mobile device as the primary phone "My primary work phone for everything." Web browsing on their smart mobile device was the activity of 5 participants or 23.8%. Nine or 42.9% of the participants responded that they avoided using their smart mobile device at all while in the office. Table 10 contains the summary of the smart mobile device use while in the office.

Table 10

Smart Mobile Device Use While in the Office

Used for	Number	Percentage of Total
Communicating (text, email)	9	42.9%
Calling	4	19.0%
Web browsing	5	23.8%
No use	9	42.9%

Theme 5: During Off-Hours. Smart mobile devices are easy to use and stay connected all the time and from any place where Internet service is available. Employees use their devices for both work and personal reasons despite of the time of the day and the day of the week. Based on the participant responses almost half of them or 47.6% used their smart mobile device for work related activities during their time-off from work to "periodically check messages," "…check mails…," "stay connected." Nine or 42.9% stayed completely disconnected from work but used their smart mobile device to check weather, watch sport events, and play games. Table 12 contains the summary of the participants' smart mobile device use for work related activities during their time-off.

Table 11

Smart Mobile Device use during Off-Hours

Usage during Off-Hours	Number	Percentage of Total
Yes	10	47.6%
No	9	42.9%
Neutral	2	9.5%

The participants however felt that using employer issues smart mobile device during their time-off for personal reasons was fine with them if needed. In addition, it was very important to the participants to have their smart mobile device always on and available if they needed to perform work related activities during their time-off.

Theme 6: While Traveling. The advancement in technology has decreased the need for travel significantly but has not eliminated it. Employees are still required to travel for business. Smart mobile devices are helping people to stay in touch whether for work or personal related purposes. Twelve or 57.1% of the participants responded that they used smart mobile devices to "…check messages when traveling," "check emails," "stay in touch with others," but equal number of participants stated that they "…prefer to turn it off and enjoy the experience of travelling." Table 12 contains the summary of the smart mobile device use while traveling. Some of the participants used smart mobile devices for both work and personal reasons. The smart mobile device usage was slightly lower when traveling internationally due to the cost of service reasons.

Table 12

Smart Mobile Device Use while Traveling

Used for reasons related to	Number	Percentage of Total
Work	12	57.1%
Personal	12	57.1%
Other (check flights, weather)	7	33.3%

Smart mobile devices are becoming an unrepeatable part of people's life, especially when employees are traveling. Seventeen or 81% of the participants felt that it

was very important to them to have the smart mobile device with them to be able to be informed of changes, connect with work easily, being able to respond to request or answer questions. Only a few participants did not feel having their smart mobile device with them while traveling. Table 13 contains the summary of whether it is important to have a smart mobile device while traveling.

Table 13

Smart Mobile Device Availability while Traveling

Availability	Number	Percentage of Total
Important	17	81.0%
Not important	2	9.5%
Neutral	2	9.5%

Theme 7: Staying in Touch. Smart mobile devices have significantly changed user behavior and may be disruptive. When a new message or headline news becomes available, smart mobile devices have the capability to alert the owner. When asked whether the users stop their activities at hand, 14 or 66.7% of the participants replied that they would stop whatever they were doing to check the alert. The participants admitted that such activities were distractive, "It distracts me a lot because I want to know what is going out," "Just quickly check who is it from and determine if I have address it," "… I just let it pop up then go away…." Six or 28.6% of the participants kept their smart mobile device either turned off or hidden to avoid distractions. Table 14 contains the summary of the user behavior when smart mobile device alerts are available.

Table 14

Smart Mobile Device Alerts

Response to Alerts	Number	Percentage of Total
Stop activities to check alerts	14	66.7%
Disallowed	6	28.6%
Neutral	1	4.8%

Employees are challenged with managing distractions at work on a regular basis. It might be difficult to get back to the task after distraction. Smart mobile devices are equipped with alerting capabilities and the users can be notified when certain information becomes available. The same number of participants (7 or 33.3%) agreed, disagreed, and were neutral that the smart mobile devices are disruptive. Table 15 contains the summary of the participants' feeling whether smart mobile devices are disruptive.

Table 15

Smart Mobile Device Disruption Statistics

Smart Mobile Devices are Disruptive	Number	Percentage of Total
Strongly Disagree	3	14.29%
Disagree	4	19.05%
Neutral/Neither agree nor disagree	7	33.33%
Agree	5	23.81%
Strongly Agree	2	9.52%

Theme 8: Employers' View. With the introduction of the smart mobile devices and rapid acceptance, employers believed that it was necessary to issue policies and guidance with regards of smart mobile device use at work. The participants provided

valuable feedback regarding employers' view and practice related to the smart mobile device use throughout the day at work. Majority of the participants, or 61.9%, indicated that employers are allowing smart mobile device use at work. Some participants stated that employers "… don't mind" because "… I do lots of work things with my device." Some employers also allow using smart mobile devices at work but the users have to limit the use "you can have it but can't be constantly on it," or "I do not use a device at work except at lunchtime." Four participants, or 19%, indicated that their employers did not allow smart mobile device use at work stating, "No phones allowed." Adding together the allowed and neutral categories 81% of the participants can use smart mobile devices at work. Table 16 contains the summary of the employer's practice related to smart mobile device use at work.

Table 16

Smart Mobile Device Use at Work – Employer's Practice

Employer's Practice	Number	Percentage of Total
Allowed	13	61.9%
Disallowed	4	19.0%
Neutral	4	19.0%

Theme 9: Cyber Security. Smart mobile devices operate wirelessly at any time and from any place given the Internet service availability. It becomes extremely challenging to secure such devices from unauthorized use or information breach. Device users whether in the office, while traveling, or during the time off, face the risk of cyber security. Despite the risk and the belief that smart mobile device security was important,

and at the same time very difficult to prevent, only two or 9.5% of the participants felt they were cautious when in the office. Eighteen or 85.7% of the participants felt they were protected and were not taking any additional steps to secure the device; therefore, cyber security has not changed these participants' smart mobile device use. Some of the participants stated, "It doesn't affect me, I feel confident," "No real effect," "It does not affect how I use my phone," "I know nothing about it." Only one participant was avoiding joining unsecured wireless networks but mainly out in the public. Table 17 contains the summary of the participants' cyber security practice at work.

Table 17

Cyber Security on Smart Mobile Devices at Work

Employees' Practice	Number	Percentage of Total
Cautious	2	9.5%
Avoiding	1	4.8%
Not concerned	18	85.7%

Traveling, whether for business or personally, significantly exposes smart mobile device users to greater cyber security risk. To stay connected the users need to either use the provider's network, which is costly, or they need to join paid or free public networks. Six or 28.6% of the participants were cautious when using public networks while traveling (an increase from 9.5% when in the office) and nine or 42.9% were avoiding using public networks (an increase from 4.8% when in the office). The participants avoided making purchases or using smart mobile devices to minimize the risk of "computer hacking" or access to their information stored on the smart mobile device. Six

participants were not concerned about cyber security while traveling with smart mobile devices (decrease from 85.7%). Remaining 6 participants or 28.6% did not feel that they were exposed to risk, “Does not affect my usage,” “It don’t affect me, I don’t pay attention to this.” Table 18 contains the summary of the participants’ cyber security practice while traveling.

Table 18

Cyber Security on Smart Mobile Devices while Traveling

Employees’ Practice	Number	Percentage of Total
Cautious	6	28.6%
Avoiding	9	42.9%
Not concerned	6	28.6%

The participants responded in the same way to the cyber security risk regarding the “during time-off” as they did to the “while traveling.” Six participants or 28.6% were cautious. The group. Fewer participants, seven versus nine, felt that they were avoiding using public access points during the time-off versus while traveling. Only one participant was avoiding using public access while in the office. The “Not Concern” group changed significantly (down to 8 from 18 when compared to when in the office) but still 38.1%, or the largest group, in the “off-hours” category. Table 19 contains the summary of the participants’ cyber security practice during off-hours.

Table 19

Cyber Security on Smart Mobile Devices during Off-Hours

Employees' Practice	Number	Percentage of Total
Cautious	6	28.6%
Avoiding	7	33.3%
Not concerned	8	38.1%

Summary

The purpose of this qualitative phenomenological study was to understand why, when, and how employees use smart mobile devices. It was necessary to pilot test the questions and the instructions prior to the main study to ensure the questions and instructions were clear. Two pilot participants completed the questionnaire and indicated that the process was clear to them. There was no need to adjust the main study's process. The questionnaire focused on how employees work when in the office, while traveling, or during the time-off. SurveyMonkey.com helped with identifying the participants, distributing the questionnaire package, and collecting the data to maintain the anonymous process.

The demographics for this study consist of the gender, age range, job level, travel amount, technology acceptance level, and the smart mobile device experience. The participants in this study were divided 57% male and 43% female. The participants' age ranged in categories from 21 to 59 years of age. The job level ranged from Owner/CEO down to the entry-level employment with the middle management category amounting to

43% of the sample. The travel amount ranged from weekly to no travel at all with the monthly category being the largest at 47%.

After applying pre-designed coding to categorize the collected data from the participants, additional themes emerged and helped to finalize the categories. The collected data was grouped into nine themes such as: always on, technology adoption, user behavior, while in the office, during off-hours, while traveling, staying in touch, employer's view, and cyber security. Based on the collected data and the analysis the study helps to answer the research questions, provide further study recommendations, and contribute to the knowledge base that is outlined in Chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Smart mobile devices are a part of the transformational technology revolution making positive contributions to the social change. Employees, whether physically in the office or remote locations, are subconsciously switching between work-related and personal activates (Derks et al., 2015) on their smart mobile devices as a part of their regular daily activities. The problem was the lack of understanding of the effect smart mobile device use has on how employees work when they are in the office, while traveling, or during the off-hours.

The purpose of this qualitative phenomenological research study was to explore the lived experiences of the influence smart mobile devices have on how employees work. SurveyMonkey, an Internet-based service, with the self-created questionnaire for this research was the data collection method from 21 participants. The anonymous questionnaire allowed the participants to answer the questions at their convenience based on their lived experience and eliminated the need for in person meetings decreasing the possibility of bias or creating uncomfortable environment. The key finding is that smart mobile devices have become very popular and widely used throughout the world for work and personal related activities each day regardless of the time of the day and location providing Internet service was available. Employees perform work related and personal activities when in the office, while traveling, and during their time-off. This chapter includes my interpretation of the findings, limitation of the study,

recommendations for further study, and the implications for positive social change, and the chapter conclusion.

Interpretation of Findings

The research questions for this study were developed to determine the influence of smart mobile devices on how employees work. There were three questions as follows:

RQ1: What is the influence of smart mobile devices on how employees work in the office?

RQ2: What is the influence of smart mobile devices on how employees work while traveling?

RQ3: What is the influence of smart mobile devices on how employees work during off-hours?

The collected data from 21 participants was analyzed and grouped into nine themes that allowed me to determine the influence of smart mobile devices on how employees work in the office, while traveling, and during their time-off.

Always On

This theme emerged from the data coding and analysis and indicates that smart mobile devices became a part of peoples' life. Participants responded that they were continuously connected whether in the office, while traveling, or during time-off to ensure they stay in touch with others and are aware of the events that matter to them. Being *always on* became a way of live and people are expected to communicate almost instantly. Smart mobile devices became the source for important information and daily

activities such as personal data, contact information, controlling and monitoring system, communication and collaboration device, relaxation media, and the encyclopedia of virtually everything that exists on the Internet. Employees use smart mobile devices for both personal and work related activities eliminating the boundaries between work and personal time. Losing the primary smart mobile device would seriously limit what people do at any time and would make feel them lost as majority of the participants indicated through their answers to the questionnaire.

Technology Adoption

Historically organizations developed new and transformational technologies for business purposes and the adoption depended on how successful companies implemented the new solutions and how effectively they trained employees. The cost of new technologies was prohibitive to individuals and the refreshment took a long time. Employees were limited to what they could do and had to follow strict corporate rules. The introduction of smart mobile device technology revolutionized the adoption process and transformed the acceptance from corporations to individuals. Apple pioneered the smart mobile device acceptance model and started creating devices that are intuitive and simple to use eliminating the need for costly training and frustration users had when they acquired new technology. The new devices have been designed for any users and virtually any age. Nearly all participants of this study or 95.22% fell into the early or average adopter of smart mobile devices, which explains why people are willing to adopt new technology as soon as it becomes available. They did not have problems to start

using the new device right away after acquiring it. Switching focus from creating transformational technologies from corporate to individuals revolutionized the smart mobile device environment and switched from corporate adoption to personal adoption. Employees influence what technology to acquire and how to use it versus traditional corporate adoption model.

User Behavior

The high adoption rate of smart mobile devices and the ease of use created the *always on* culture. Employees do not believe there is a distinction between personal and work related use of smart mobile devices. They perform whatever activities are important to them at any time of day regardless of whether the device is employer owned or they have paid for it. The important point is that the smart mobile device users are naturally cost conscious and when the connections with the Internet is not free, they limit their use not to abuse the privileges or to avoid personal cost.

While in the Office

The typical office activities have not changed significantly but the amount of time employees spend on work related activities in the office has changed noticeably. Smart mobile device technology allows the employees to automate some of the manual activities such as dialing phone numbers, communicating with others, and staying informed and in touch with other employees, acquaintances, friends, and family members. The cost of the Internet connectivity is a fraction of the cost several years ago and there is no additional cost when employees are in the office regarding the Internet

use. It is easier for the employees to make a phone call from their smart mobile device with pre-programed contact information versus looking up the number and dialing it from the office phone. It also eliminated the need to keep two phone lists one in the corporate phone system and one in the smart mobile device. Since employees carry their smart mobile device with them all the time, their preference is to use it for all related activities.

Smart mobile devices also serve as alerting systems and employees receive instant messages when something important to them occurs anywhere in the world, based on their preferences. Human nature is to check the alert when it arrives which appears to be disruptive. To decrease the disruptions 43% of participants indicated that they would turn the device off or put it away when working on a very important project but would check it periodically at their convenience.

During Off-Hours

Traditional corporate technology made a clear separation between work and off-hours because employees had to be in the office. Alerts and instant messaging were virtually nonexistent. With the introduction of smart mobile devices and the technological advancement, alerts, instant messaging, and the Internet connectivity allow employees to react to alerts and made it easier to perform work related activities at their convenience. Almost half or 47.6% of participants indicated that they used smart mobile devices for work related activities during off-hours to check and answer emails, view alerts, and stay connected with other employees or customers. Using smart mobile devices for work

related activities during off-hours explains the belief the employees have that they do not feel guilty using smart mobile devices for personal use while in the office.

While Traveling

Traveling typically disturbs regular daily schedule and traditionally disconnected employees from access to corporate systems, made it difficult to connect with others, and significantly decreased the ability to serve customers. Although the advancement in technological solutions decreased the need for travel but it has not eliminated it. Employees still need to travel for work related purposes or they chose to travel for personal reasons. When traveling, employees carry their smart mobile devices with them to stay connected with both work and personal activities. Majority of the participants responded that they used their smart mobile device to check messages, emails, use corporate systems, and stay informed of travel schedules and changes. It made them feel as being in the office and at home at the same time. Traveling is time consuming and some of the participants used their smart mobile devices to play games or reading on their smart mobile devices to make time go faster. Regardless of the reasons, the participants used their smart mobile device for while traveling, majority or 81% of the participants felt that having the device with them was very important and essential.

Staying in Touch

Staying in touch is one of the most important activities participants alluded to and having their smart mobile device with them all the time was very important. When alerts, messages, or calls arrived on the smart mobile device, 67% of the participants stopped

their activities at hand to check the message. They admitted such practice was disruptive but curiosity and the need for staying in touch for work or personal reasons exceeded the need of staying focused on the activity at hand. To decrease disruptions some participants kept their smart mobile devices turned off or hidden because it was difficult for them to get back to the original activities after the smart mobile device disruption. However, the participants' personal view was equally divided among disruptive, non-disruptive, and neutral opinion regarding alerts and messages that were showing up on their smart mobile devices.

Employer's View

Employers are very interested in optimizing employee performance and productivity. It is a difficult task to measure either one and historically employers took a stance that smart mobile devices were disruptive. Each company created their own policies and guidance regarding the use of smart mobile devices. However, the advancement in smart mobile technology is exceeding the employer's understanding of how employees are using smart mobile devices and why. Although polices and guidelines are in place, they are rarely enforced or followed. Some participants or 62% indicated that the employers allow smart mobile devices at work because this technology became a part of peoples' life and benefits employers when employees are always connected.

Cyber Security

The threat of data breach and intellectual property protection risk are on the rise and are very costly to deal with. Smart mobile devices connected with the Internet are

vulnerable to unauthorized access. The risk was not only limited to when employees are outside the office but also to the time, they are in the office. The challenge is that smart mobile device users do not view the security threat on their devices the way people view the threat on personal computers. Majority or 85.7% of the participants felt that they were well protected and were not taking any additional precautions to avoid potential unauthorized access. Especially the users with employer issued devices believed that that it was the employer's responsibility to secure the devices. While the office area might be much better secured, joining public networks, especially when traveling, and most importantly when abroad increases the risk of data breach and intellectual property compromise.

Limitations of the Study

The major limitation of this study was its phenomenological nature that is weak in transferability. The data collected during the questionnaire process was the participants' opinion and their personal lived experience. The data collection was in a form of a questionnaire that SurveyMonkey.com distributed to the purposefully selected participants. The ultimate data collection would be in a form of interviews with face-to-face discussions to allow for dialog between the participant being interviewed and the researcher. However, the data collection process was anonymous and I did not have the opportunity to contact some or all participants to ask additional questions due to the need to keep the participant identity confidential. In-person interviews would have produce longer narrative format of the answers and better understanding of each participant's

lived experience regarding smart mobile device use at work, while traveling, and during the time-off.

A limited number of participants from mid-size U.S. based companies took a part of this study where including participants from other companies and expending the participant base outside of the U.S. could produce slightly different results. Cultural differences result in a different smart mobile device use when employees travel or during their time-off due to the cost of the Internet service when abroad. Companies in other countries might have different policies and guidelines that could make a different behavior influencing the smart mobile device use in the office, while traveling, and during time-off.

Interpretation of each question and the feedback in the form of written answers depend on each participant's view and opinion that differ from person to person and might have been influenced by personal bias view of some historical experience. Finally, each person interprets information in a different way that might be based on previous experience and the view of the smart mobile device subject. My own interpretation of the answers was the conclusion of the study.

Recommendations for Action

The findings of this study should be of interest to all organizations and businesses as well as the individuals that use smart mobile devices for work and personal purposes. The smart mobile device technology has been rapidly advancing and has revolutionized the way employees live and work. The research shows that smart mobile device

technology has been largely accepted (95.22%) among the questionnaire participants due to the ease of use and intuitive characteristics of the devices. Smart mobile device technology has created and strongly influenced the *always on* culture. Users perform personal and work related activities from anywhere and at any time providing the Internet connectivity is available allowing them to stay connected with work and personal events.

Most participants in this study indicated that they willingly performed work related activities on their devices while traveling and during time-off. This is a very valuable information that company leaders can use to greatly improve customer service, employee engagement, and ultimately employee performance. Most of the organizations today have policies and guidelines legally limiting employees using smart mobile devices. It is imperative to eliminate such policies except when cyber security risk is involved or in the case of costly data roaming. Innovative technological solutions provide a competitive advantage when properly used. It is equally important that the employers understand how people are using smart mobile devices to create a more productive environment for the employees and at the same time protect company's trade secrets, sensitive information, and intellectual property. Dessein and Santos (2006) found in their research that adaptive and high performing organizations give employees freedom how and when they work on given tasks. Adoptive organizations attract more creative employees who are open to innovative solutions and communication with others who are willing to share their knowledge and do not mind the time of a day when they collaborate with others. Allowing employees use their smart mobile devices at any time and from any

place will greatly benefit the employer from higher productivity and significantly improved customer service.

Information technology support teams greatly benefit from the study that helps them to understand how mobile smart device owners make the decision which technology to acquire and how and when they use the services. It is unavoidable that employees conduct social networking, manage customer relationships, conduct personal activities, as well as perform other work related activities that include handling sensitive company information, intellectual property, and trade secrets when in the office, while traveling, and during time-off. Smart mobile devices continuously linked with the Internet eliminate the personal and professional boundaries and are becoming an inseparable part of people's life influencing the way employee work. The information technology management needs to allow smart mobile device users take full advantage of currently available technology and design the right support service to minimize system or availability downtime.

Corporations spend a significant percentage of their annual budget on securing information and training the technology users, but any system is as good as the weakest link. The study shows that smart mobile device users put the burden on the employer to secure the system. Majority or 85.7% of the participants felt they were protected and were not taking any additional steps to secure the devices they were using in the office, while traveling or during time-off. There is a strong need and recommendation that both, information technology professionals and individuals must take responsibility for

protecting information and access to the related corporate systems. The technology alone cannot provide all the needed security but the technology and safety awareness can significantly reduce the risk of information compromise (Rotvold, 2008). The *always on* culture significanlty increases the risk for potential information breach that will be costly to the organization. Equally, security software and hardware organizations need to develop new ways of securing access to the smart mobile device hardware and software to protect the information as well as the informaiton remote storage locations. Historically organizations pay a lot of attention to securing corporate systems; however, such security measures are not enough to secure smart mobile devices today. They are intuitive, allow users to access, and share information virtually at any time and from any place (Stohl et al., 2008). Employees download fake applications and install them on their smart mobile devices without realizing that they are giving unauthorized access to other systems and information. Additionally, employees' children and teenagers use the same kind of smart mobile devices and connect to the same networks at home, as their working parents do increasing the risk of someone accessing parents' smart mobile devices through those devices. Investment in securing and managing smart mobile devices is critical and highly recommended in all organization.

Implications

Positive social change is a goal of scientific research. Society is looking for better quality of life and improved well-being and scientists search for ways to contribute to positive social change. This research study provides background, findings, and guidelines

for optimizing smart mobile device technology use that has already changed the way people work and live. Most people spend most of their walking time on work related activities to provide for their families and advance their lives. Employees largely depend on companies and organizations for providing resources and creating environments for advancement and improvements. Employers play a significant role in positive social change through investments in society and the products or services they deliver, but at the same time, they can limit the progress of social change through policies and business interests. Historically, only a few organizations were ever able to drive positive social change very well (Beinhocker, 2006) and other organizations delivered just average results.

Transformational technologies, that smart mobile devices are a part of, have been positively changing the way people live and work (Sorensen, 2013). Employees can stay in touch with virtually anyone, at any time, from any smart mobile device with the Internet connection (Stohl et al., 2008). They conduct business, monitor their health, perform personal activities, or search the infinite Internet library on any subject from anywhere providing they have the Internet connection. The information revolution and broad acceptance of the smart mobile device technology lowered the cost of the smart mobile devices allowing larger population take advantage of the technology.

The smart mobile device popularity has created the *always on* culture and the device users' access information over the Internet from any place and at any time providing the Internet connectivity is available. Smart mobile devices are treated

differently than office computers greatly increasing the risk that cyber-criminals can gain access to the same information as the device owners. This is due to false thinking that the employees and service providers are responsible for securing each device, which might have serious implications once hackers gain access to unauthorized data sources. The smart mobile device users have a choice to either follow safe practices that would lead to more secure systems, personal information protection, and security or take a risky approach that would result in a high probability of negative consequences and additional cost (Aytes & Connolly, 2004) to address information breaches when they happen. The good news is that recent advancements in smart mobile device technology such as biometric identification are gaining popularity (Seo et al., 2012) because they address the information security via personal identification and make it easier for the users manage the access to the devices. Employers need to allocate funds to acquiring and implementing smart mobile device management systems to secure intellectual property and trade secrets. Additionally, most of the smart mobile devices are already equipped with the capability to erase all the information on the device if a wrong password is entered more than allowed times; however, the employers need to educate the employees and help them to configure the devices either manually or through corporate management systems.

Conclusions

The advancement and broad acceptance of smart mobile device technology have revolutionized the way people work and live. Smart mobile devices became an

inseparable part of peoples' life and created the *always on* culture erasing the boundaries between professional and personal life. Employees perform work and personal activities in the office, while traveling for business or leisure, and during time-off. Smart mobile devices allow people to automate daily routines, collaborate with other employees, serve customers, access corporate systems, monitor their activities, search Internet, and stay in touch with others.

Historically employers initiated transformational technologies but the smart mobile technology started with individuals and has revolutionized the way people function today. Employers quickly implemented rules and policies that limit the employees how and when they can use smart mobile devices but the rules and policies have been largely ignored. Employees keep using their devices for any reason when they need to use them to perform activities that are important to them and instrumental in completing their tasks. Limiting employees how and when to use smart mobile devices negatively influences their productivity and demotivates them. Employers should only provide guidelines regarding how and when to use smart mobile devices to avoid unnecessary cost and should invest in securing such devices to ensure intellectual property, trade secrets, and proprietary information are secured.

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Appendix A: Data Collection Protocol

Table A1

Questionnaire Protocol for Data Collection – Pre-Questionnaire

Step	Description
1.	Obtain permission to distribute questionnaire to the research study participants
2.	Prepare request for participants about participating in the study
3.	Distribute announcement and official request to potential participants
4.	Prepare questionnaire
5.	Notify participants about the questionnaire distribution timing

Table A2

Questionnaire Protocol for Data Collection – Pilot Study and Primary Study

Step	Description
1.	Distribute questionnaire and explain the process
2.	Distribute implied consent to the participants
3.	Thank participants
4.	Provide participants with a follow up contact information
5.	Advise participants about next steps

Table A3

Questionnaire Protocol for Data Collection – Post-Questionnaire

Step	Description
1.	Save collected data and create backup
2.	Secure printed responses and notes
3.	Import collected data into analysis software
4.	Provide participants with a follow up contact information
5.	Promise to provide a complimentary copy of the research study to each participant when study is approved for distribution

Appendix B: E-mail to Participants Requesting Participation in the Pilot Study

Dear Prospective Research Participant:

My name is Adam Gorski, and I am a doctoral candidate at Walden University. As I complete the degree requirements of a Ph.D. in Management, I will be conducting a research study on the topic of smart mobile devices. The purpose of this research study is to explore the influence smart mobile devices have on how employees work.

Please know that your participation is voluntary and will consist of answering questions in a questionnaire hosted online by SurveyMonkey.com.

Should you decide to participate, please respond to this email and I will promptly send a link to the online questionnaire.

Sincerely,

Adam L. Gorski

Appendix C: Invitation for Participants Requesting Participation in the Study

Dear Prospective Research Participant:

My name is Adam Gorski, and I am a doctoral candidate at Walden University. As I complete the degree requirements of a Ph.D. in Management, I am conducting a research study on the topic of smart mobile devices. The purpose of this research study is to explore the influence smart mobile devices have on how employees work.

Please know that your participation is voluntary and anonymous. The research study consists of answering questions in a questionnaire hosted online by SurveyMonkey.com.

Should you decide to participate, proceed to the next section.

Sincerely,

Adam L. Gorski

Appendix D: Implied Consent for Pilot Study

TITLE OF STUDY

Assessing the Influence of Smart Mobile Devices on How Employees Work

PRINCIPAL RESEARCHER

Adam L. Gorski

Walden University

Mobile: XXX-XXX-XXXX

Email: XXXXXX

PURPOSE OF STUDY

The purpose of this study is to assess the influence of smart mobile device use on how employees work. It will take approximately 20 minutes to complete the questionnaire.

STUDY PROCEDURES

This research involves collecting data from the study participants using a questionnaire that is administered by SurveyMonkey.com organization. Your answers will be stored on SurveyMonkey.com's site and I will access it after entering my login and password information.

RISKS

There is no known risk associated with the questionnaire. You may terminate your involvement at any time if you choose without any negative impact.

BENEFITS

This project addresses the under-researched topic of smart mobile technology that significantly changes the social, professional, and personal aspects of our lives. People increasingly use smart mobile devices and the trend indicates that life will depend on such devices in the future. Vast acceptance of smart mobile technologies create potential information breach risk, thus, security software and hardware organizations could learn from this study where the problem might be and develop new ways of securing access to the hardware and software to protect personal and professional information.

CONFIDENTIALITY

Your responses to the questionnaire are voluntary. The questions are designed to ask for limited personal information only for categorization and grouping purposes.

CONTACT INFORMATION

If you have questions at any time about this study, you may contact the principal researcher whose contact information is provided on the first page. You may also contact Dr. David Gould, who serves as my committee chair, by emailing him at XXXXXX. If you want to speak privately about your rights as a participant, you may contact Dr. Leilani Endicott. She is a representative of Walden University and can be reached via email at XXXXXX.

The approval number for this study is 04-20-17-0343691 and it expires on April 19th, 2018.

CONSENT

I have read the above information, and I feel I understand the study well enough to make a decision about my involvement. By completing the questionnaire, I understand that I am agreeing to the terms described above.

Appendix E: Implied Consent

TITLE OF STUDY

Assessing the Influence of Smart Mobile Devices on How Employees Work

PRINCIPAL RESEARCHER

Adam L. Gorski

Walden University

Mobile: XXX-XXX-XXXX

Email: XXXXXX

PURPOSE OF STUDY

You are being asked to take part in a research study. The purpose of this study is to assess the influence of smart mobile device use on how employees work. It will take approximately 20 minutes to complete the questionnaire.

STUDY PROCEDURES

This research involves collecting data from the study participants using a questionnaire that is administered by SurveyMonkey.com organization. This questionnaire is anonymous. SurveyMonkey.com will not reveal personal identification information to me. Your answers will be stored on SurveyMonkey.com's site and I will access it after entering my login and password information.

RISKS

There is no known risk associated with the questionnaire. You may terminate your

involvement at any time if you choose.

BENEFITS

This project addresses the under-researched topic of smart mobile technology that significantly changes the social, professional, and personal aspects of our lives. People increasingly use smart mobile devices and the trend indicates that life will depend on such devices in the future. Vast acceptance of smart mobile technologies create potential information breach risk, thus, security software and hardware organizations could learn from this study where the problem might be and develop new ways of securing access to the hardware and software to protect personal and professional information.

CONFIDENTIALITY

This is an anonymous questionnaire and your responses to the questionnaire are voluntary. The questions are designed to ask for limited personal information only for categorization and grouping purposes. Your name and contact information is not known to me (the researcher)

CONTACT INFORMATION

If you have questions at any time about this study, you may contact the principal researcher whose contact information is provided on the first page. You may also contact Dr. David Gould, who serves as my committee chair, by emailing him at XXXXXX. If you want to speak privately about your rights as a participant, you may contact Dr.

Leilani Endicott. She is a representative of Walden University and can be reached via email at XXXXXX.

The approval number for this study is 04-20-17-0343691 and it expires on April 19th, 2018.

CONSENT

I have read the above information, and I feel I understand the study well enough to make a decision about my involvement. By completing the questionnaire, I understand that I am agreeing to the terms described above.

Appendix F: Participant Questionnaire

Influence of Smart Mobile Devices on How Employees Work

Welcome to My Questionnaire

Thank you for participating in this scientific study. Your feedback is very important.

The purpose of this study is to assess the influence of smart mobile devices (smart phones [e.g. iPhone, Samsung Galaxy, Others...], tablets [e.g. iPad, Samsung, Amazon Fire, Others...]) on how employees work. The results of this questionnaire will be summarized and used for my doctoral dissertation.

Influence of Smart Mobile Devices on How Employees Work

Smart Mobile Devices (i.e. iPhone, Samsung Galaxy, iPad, other...)

The following questions are related to your smart mobile device(s). Please answer each question that best describes your situation.

1. How many smart mobile devices do you currently use throughout a typical day?

- [ ] 1
- [ ] 2
- [ ] 3 or more

2. Is (are) the smart mobile device(s) personal or employer-owned?

- [ ] Personal
- [ ] Employer-owned
- [ ] Both (personal and employer-owned)

3. What is your primary smart mobile device?

- [ ] Smart phone
- [ ] Tablet
- [ ] Other (please specify)

4. Please describe how would you feel if you had lost your smart mobile device(s) or if it (they) was (were) taken away from you and you had to continue with out it (them)?

5. What is your experience with smart mobile device(s) from when you started using it (them) until now (how comofrtable are you with the technology, functionalities, service…)?

[redacted]

Influence of Smart Mobile Devices on How Employees Work

Using Smart Mobile Device(s) at Work (while in the office)

The following questions are related to the way you use the smart mobile device(s) while at work.

1. What is your employer's view/practice related to you using smart mobile device(s) throughout the day at work?

2. In a typical workday, why and how do you use your smart mobile device(s) in the office? In addition, please compare the use of smart mobile device(s) to the use of landline office phone.

3. What is your view/experience with using smart mobile device(s) at work for personal reasons? Have you experienced any conflicts or difficulties or restrictions? Please explain.

4. Based on your experience, what are your perceptions regarding cyber security related to smart mobile device(s)? How does it affect the way you use the device(s)?

5. When working on tasks/projects and you notice a new email, headline news, or text message, what do you do? Please describe your experience/practice and how it affects your focus on the task/project you are working on?

Influence of Smart Mobile Devices on How Employees Work

Using Smart Mobile Device(s) while travelling (domestic and international).

The following questions are related to smart mobile device use for work-related purposes while traveling.

1. Please explain how you use your smart mobile device(s) while traveling such as at the airports, on the airplanes, on trains … for work related activities? If you do not use your smart mobile device(s) while traveling, please explain why?

2. How important it is and why, to have your smart mobile device(s) with you (for work related purposes) when you are traveling? If it is not important, please explain why?

3. What is your experience with using employer-issued and/or personal smart mobile device(s) while traveling for personal reasons?

4. Based on your experience, what are your perceptions regarding cyber security related to smart mobile device(s) while you are traveling? How does it affect the way you use the device(s) while traveling?

5. How and why the smart mobile device(s) use differs when you are traveling within the U.S. versus traveling internationally? What are the constrains and how such constrains affect the way you work?

Influence of Smart Mobile Devices on How Employees Work

Using Smart Mobile Device(s) during off-hours

The following questions are related to smart mobile device use for work-related purposes <u>while at home, on vacation, on holidays</u>...

1. Please explain how you use your smart mobile device(s) on weekends, before work, after work, on holidays, vacations, and sick days <u>for work related purposes</u>? Why do you use it (them)? If you are not using smart mobile device(s) during off-hours, please explain why?

2. How important it is and why to have your smart mobile device(s) with you (for work related purposes) during off- hours? If it is not important, please explain why?

3. If you have employer-issued smart mobile device(s), what is your view/experience with using smart mobile device(s) during off-hours for personal reasons?

4. Based on your experience and practice, what are your perceptions regarding cyber security related to smart mobile device(s) during off-hours? How does it affect the way you use the device(s)?

5. Based on your experience do you feel you need to perform work related activities on your smart mobile device(s) during off-hours? Please explain why or why not?

Influence of Smart Mobile Devices on How Employees Work

Background Information

Please provide the following background and business information.

1. Are you a male or a female?

- Male
- Female

2. Which category below includes your age?

- 20 or younger
- 21 - 29
- 30 - 39
- 40 - 49
- 50 - 59
- 60 or older

3. Which of the following best describes your current job level?

- Owner/Executive/C-Level
- Senior Management
- Middle Management
- Intermediate
- Entry Level
- Other (please specify)

4. On average, how often do you travel for work?

- Weekly
- Monthly
- A few times a year
- Less than a few times per year
- I do not travel for work

5. Do you consider yourself technology ...?

- Early adopter (I must get new gadgets when they become available)
- Average (I get new gadgets when the majority of people do)
- Late adopter (I get new gadgets only when I have to)

6. Smart mobile device(s) is (are) disruptive.

- Strongly Disagree
- Disagree
- Neutral/Neither agree nor disagree

- Agree
- Strongly Agree