THE RELATIONSHIP BETWEEN SOCIAL COMPUTING NETWORKING, WORKPLACE ENGAGEMENT, AND ETHICAL WORKPLACE BEHAVIORS OF PROJECT MANAGERS

by

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Abstract

Social computing networking is fast becoming a part of how project managers interact, communicate, and conduct business with each other. This quantitative, non-experimental, survey research addressed the extent to which social computing networking (SCN) affects workplace engagement and ethical workplace behaviors of project managers within public sector organizations. The Utrecht Work Engagement Scale (UWES-17) and the Workplace Ethics Behavior Survey (WEBS) were used to measure the constructs. Data analysis included descriptive statistics, inferential statistics, and hypothesis testing using correlational and multiple regression analysis. The study combined social identity theory with empirical findings from business ethics and workplace engagement research. The accessible population was 116 project managers from the public sector in the southeastern regional area of the United States. The results indicated that a significant, positive relationship did exist between social computing networking and workplace engagement. Additionally, there was a significant, positive, relationship between social computing networking and ethical workplace behaviors. Each null hypothesis was significant at a .05 level and rejected in consideration of the alternate hypothesis. The findings provided insight and increased understanding of project manager needs for engagement and helped determined how organizations can respond to such needs. Consequently, Project Management policies on social networking and expected ethical conduct should be understood by all users. Corporate policies on social computing networking should balance the employer's and employee's interests relevant to workplace engagement and ethical behaviors for a more positive, productive, and secure workplace.

Dedication

This dissertation is wholly dedicated to the women in my life; my wife Fanshun Nsiegbe, who has always supported my educational pursuits, personal, professional and self-improvement of any kind; who was my initial and primary editor when I started the program. Next is my mother, Mercy Nsiegbe, who was always encouraging and making me see the light at the end of the tunnel and never missed a chance to ask, "When are you going to finish this program"; a person who with less than a second grade education can add, divide, multiply, and subtract without the aid of a calculator in less time than the educated ones. And finally, my sisters – Dorothy, Rachael, Theresa, Dorcas and Keziah Nsiegbe, who has always been very encouraging from the start to the finish; who never passes up a chance to play devil's advocate with me, no matter the topic or subject. I am indebted and very appreciative for all the sacrifices and roles they have all played in my life and to that, I say "Thank You." And most importantly, I thank God for making me see the light of this day because many great men have sought to see the light of today but have not been speared, but I have, not by my might but by His Mercy and Grace – It is well with my soul.

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"Some men see things as they are and say why? I dream things that never were and say why not?" – Robert F. Kennedy, 1968.

This great quote was a going away plaque given to me by my first line supervisor who saw the potential in me soon after transitioning from the US Army to a civilian workforce. As a father figure, he saw the potential in me and was very encouraging to say the least. I have cherished this little plaque over the years and it has meant a lot to me; to dream dreams and never letting go of that burning desire to achieve the highest peak of academia. At times, I have become dejected in my quest to obtaining my doctoral degree, sometimes I ask myself why am I punishing myself and forgoing all the personal comforts. There were a lot of challenges along the way even to a major pipe break during the recent inclement weather in the South; flooding my home and causing a lot of damage, yet through it all I survived.

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CHAPTER 1. INTRODUCTION

The Internet and social media tools are fast becoming a part of how employees interact, communicate, and conduct business with each other (Leigh & Sherry, 2010; Schettini & Weiss, 2011), which is especially true for project managers. Schettini and Weiss (2011) reported that more than two thirds of 181 project managers surveyed in 32 countries believed that social media is a key issue for their industry. Of all the organizations polled, 76% used online networking tools for managing projects. Aside from communication, project managers used social media tools for collaborating on tasks (34%), task tracking (19%), and hosting online meetings (32%) of the time.

Aside from the advantages that social computing networking (SCN) offers for project management, there are concerns regarding SCN applications and risks for project managers in public sector agencies. Public sector agencies are those that are wholly or substantially owned by government (Munivenkatappa & Reddy, 2012). Managing business in these agencies requires competent, effective, and a loyal workforce to run the organization profitably and create value to the stakeholders (Boardman, Bozeman, & Ponomariov, 2010). Carden and Boyd (2012) noted that project managers are charged with implementing projects on time, within budget, and meeting or exceeding customer expectations. More importantly, project managers have an ethical responsibility to execute the projects with an exceedingly high level of moral character within the organization.

Chapter 1 presents a general overview of the study with a brief discussion of relevant literature. The primary focus of the chapter is the outline presentation of the

background of the study, statement of the problem, purpose statement, research questions, rationale, relevance, and significance of the study. Other components include the nature of the study, definition of terms, assumptions, limitations and delimitations, and, the organization of the remainder of the study.

Background of the Study

In the past decade, social media tools have been widely used by project managers. Aside from communication, these tools have been used for collaborating on tasks (34%), task tracking (19%), and hosting online meetings (32%) of the time. In a study conducted by North (2010), participants were asked their opinion of the biggest problem with the use of social networking in general in the workplace. Forty-seven percent of the participants under age 30 indicated they tend to become addictive and waste time as the biggest problem.

Although there are many advantages that social computing networking (SCN) offers for project management, there remain concerns regarding SCN applications and risks for project managers in public sector agencies. Government agencies with over 45,000 government employees look to SCN tools to boost productivity (Nath, 2011). One example is Govloop, the largest social network for government employees with which users can do anything from getting their questions answered to building relationships (Nath, 2011). Aguenza and Som (2012) argued that accessing SCN affects productivity negatively, leading to a decline in work engagement. The terms civil (public) servants, government employees refer to professionals in the public sector and are used interchangeably.

The average American worker spends between 21% and 26% of his or her paid time engaged in personal activities online, which is evidence of less workplace engagement and unproductivity (Frauenheim, 2009). In a study conducted by North (2010), participants were asked their opinion of the biggest problem with the use of social networking in general in the workplace. Forty-seven percent of the participants under age 30 indicated they tend to become addictive and waste time as the biggest problem. Although, research showed that SCN tends to contribute to decreased workplace engagement and unethical employee behaviors (Ferreira & du Plessis, 2009; Lin & Lu, 2011; North, 2010), there is a significant gap in the literature concerning the impact of SCN on project managerial networking behaviors.

Statement of the Problem

The problem addressed is decreased workplace engagement and unethical behavior of project managers stemming from the increased use of SCN in the public sector workplace. The Ethics Resource Center (2011) reported that 45% of U.S. employees observed a violation of ethics at work, especially employees between the ages of 18 to 24 years old. In a recent survey, project managers indicated they used social media in chatting and blogging (67%), and other online community activities (62%) (Schettini & Weiss, 2011). The average American worker spends between 21% and 26% of his or her paid time engaged in personal activities online, which is evidence of less work engagement and unproductivity (Frauenheim, 2009). Although, research showed that SCN tends to contribute to decreased work engagement and unethical employee behaviors (Ferreira & du Plessis, 2009; Lin & Lu, 2011; North, 2010), there is a

significant gap in the literature concerning the impact of SCN on project managerial networking behaviors.

Purpose of the Study

The purpose of this quantitative, non-experimental, survey research is to examine the extent of the relationship between SCN (IV) and the factors of workplace engagement (DV), and ethical behaviors (DV) as it relates to project managers from public sector organizations. The study population under investigation is project managers from public sector organizations situated in the Southeastern regional area of US. The Utrecht Workplace engagement Scale (UWES) designed by Seppälä et al., (2009) and the Workplace Ethics Behavior Survey instrument by (McMinn, Buchanan, Ellens, & Ryan, 1999) was used to measure the constructs.

Rationale

Researchers have conducted extensive research in the field as it relates to social computing networking (O'Fallon & Butterfield, 2012; Schaufeli & Bakker, 2004); however, there was a dearth of literature that specifically examined the relationship between the variables of social computing network, workplace engagement, and ethical workplace behaviors among project managers. The literature reviewed focused primarily on associations between constructs that might contribute to making ethical business decisions. Therefore, this quantitative, non-experimental survey study will add different dimensions to the available body of research with a focus specifically on the field of project management. The overall aim is encourage ethical behaviors in project management in order to protect its integrity, while at the same time encouraging responsible workplace engagement for employees in the public sector.

The research questions and hypotheses of this study were correlational in nature; therefore, required the appropriate correlational design. Correlational research is a form of analysis in which the researcher correlates one variable with another to determine if there is a relationship between them (Trochim, 2008). In this study, there are three research questions and three hypotheses statements. The rationale for using multiple regression analysis is to test these hypotheses. Survey research is a nonexperimental research method based on questionnaires or interviews (Trochim, 2008). Surveys were used for this study because researcher wanted to target a sample large enough so that generalizations can be made about the specific population of project managers. Because this is a non-experimental study, survey method was deemed appropriate for data acquisition (Cooper & Schindler, 2008). The Utrecht Work Engagement Scale (UWES-9) instrument was used to measure workplace engagement in this study. The researcher took the appropriate steps to insure that the UWES-9 scores had acceptable psychometric properties to address the research questions and problem of this study. Work engagement as used in this study is defined as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Romá, & Bakker, 2002). Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior. Vigor was characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties.

Schaufeli and Bakker (2004) described dedication as being strongly involved in one's work and experiencing a sense of enthusiasm, inspiration, and challenge. Finally,

absorption is characterized by being fully concentrated and happily engrossed in one's work. The individual feels that time passes quickly, subsequently the individual experience difficulty with work detachment.

Research Questions and Hypothesis

The management level question addressed in this study is the extent to which SCN affects workplace engagement and ethical workplace behaviors of project managers within public sector organizations specific research questions are as follows:

RQ1: What is the extent of the relationship between the use of SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously?

$H1_0$: There are no relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers.

$H1_A$: There is at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers.

RQ2: To what extent are SCN and workplace engagement related among project managers?

$H2_0$: There is no relationship between use of SCN and workplace engagement of project managers.

$H2_A$: There is a positive relationship between use of SCN and workplace engagement of project managers.

RQ3: To what extent are SCN and ethical workplace behaviors related among project managers?

$H3_0$: There is no relationship between use of SCN and ethical workplace behaviors of project managers.

$H3_A$: There is a positive relationship between use of SCN and ethical workplace behaviors of project managers.

Nature of the Study

This quantitative, non-experimental, survey research examined the extent of the relationship between SCN (IV) and the factors of workplace engagement (DV), and ethical behaviors (DV) as it relates to project managers from public sector organizations. The study population under investigation is project managers from public sector organizations situated in the Southeastern regional area of US. The Utrecht Workplace engagement Scale (UWES) designed by Seppälä et al., (2009) and the Workplace Ethics Behavior Survey instrument by (McMinn et al., 1999) were used to measure the constructs.

This study utilized a quantitative, non-experimental research design using multiple regression analysis technique. Ellis and Levy (2009) described the quantitative correlational approach as a method of determining the presence and degree of a relationship between two factors or variables. Using SPSS software, data analysis included descriptive statistics, inferential statistics, and hypothesis testing using correlational and multiple regression analysis. The variables are social computing network (SCN), employee workplace engagement, and ethical workplace behaviors. Data were collected using the Survey Monkey (2013) online survey database. Multiple regression analysis was used to analyze the effects of the variables employees' age and years of experience.

Data returns consisted of responses from two validated instruments, the Utrecht Work Engagement Scale (UWES-17) and the Workplace Ethics Behavior Survey (WEBS) Instrument by (McMinn et al., 1999). The UWES-17 measured workplace engagement as characterized by vigor, dedication, and absorption (Seppälä et al., 2009). There are 17 Likert type items. The WEBS Instrument queried whether social networking influences project managers' views about ethics at work. The target population was comprised of project managers from the public sector in the southeastern regional area of the United States. Using GPower3 statistical calculations, it was determined that with a confidence level of 95% and a confidence interval of .05, and the power set at .80, a sample size of 109 was appropriate. The statistical package for social sciences (SPSS) was used for both statistical data collection and data analysis, respectively.

Significance of the Study

The need to fill gaps in ethics research in a business context sparked the current study. The current research combined social identity theory with empirical findings from business ethics and workplace engagement research. The goal of social identity theory is to explain group processes, inter-group relations, and the social self (Pearce, 2013). This theory was used to test the hypotheses that investigated the relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers.

The basic idea of social identity theory is that a person forms a unique personal identity as an individual and develops a social identity based on the groups to which he or she belongs. This study should add new insight into the existing body of literature, for it is the first study to make a distinction among social computing networking, organization engagement, and ethical practices of project managers.

There are several reasons for examining the relationship among SCN, employee workplace engagement, and ethical workplace behaviors of project managers from public sector organizations. This study can contribute valuable knowledge to the social science community and to those whose job practices and services deal with the organization's human resources affairs and particularly for organizations that have yet to institute social computing network policies. Findings from this study increased understanding of project manager needs that may be generational in nature and determine how organization can respond to such needs.

Definition of Terms

The following definitions share characteristics are used to explain processes and terminology relevant to this study:

Absorption: Characterized by deep concentration in one's work, the sense that time passes quickly and one is reluctant to leave one's work (Burke & El-Kot, 2010).

Active social networkers: Those who spend 30% or more of their workday using social network sites (Verschoor, 2012).

Dedication: Characterized by high levels of work involvement and feelings of pride and challenge from one's work (Burke & El-Kot, 2010).

Ethical Workplace Behaviors: The moral right and wrong arising in the context of business practice (Drover, Franczak, & Beltramini, 2012)

Social Computing Networking: The act of using computing tools to facilitate social and collaborative relationships on websites that allow people to connect with others to share content and community (Banan & Banan, 2009; Hornberger, 2011).

Social Computing: A general term for an area of computer science that intersects social behavior and computational systems (Banan & Banan, 2009); social computing is an emerging cross disciplinary field focused on the use of computing tools to facilitate social and collaborative interactions (Banan & Banan, 2009).

Social Media: Use of electronic and Internet tools for the purpose of sharing and discussing information and experiences with other human beings. The term most often refers to activities that integrate technology, social interaction, and the construction of words, pictures, videos, and audio (Leigh & Sherry, 2010).

Social Networking Websites: Websites such as Facebook, Twitter, and LinkedIn (Hornberger, 2011).

Social Networks: Sites that allow people to build personal web pages and then connect with friends to share content and community; a map of the relationships among individuals, indicating the ways in which they are connected through various social familiarities ranging from casual acquaintance to close familial bonds (Hornberger, 2011).

Unethical Behaviors: Behaviors that lead to damaging consequences for the others, and are considered as illegal or unethical by the organization (Tonus & Oruç, 2012).

Vigor: Characterized by high levels of energy, the willingness to invest energy in one's work and persistence in difficult times (Burke & El-Kot, 2010).

Workplace Engagement: An individual's positive, fulfilling work-related state of mind characterized by vigor, dedication, and absorption (Seppälä et al., 2009).

Assumptions and Limitations

It was assumed that all of the participants would answer each survey question honestly and completely. It was assumed that there would be sufficient interest and participation in this study, which would encourage participants to submit a completed survey. It was also assumed that a project manager would be versed in Information Communication Technology (ICT) and have adequate understanding of social computing and social media technologies that are being examined in this study. Because the survey instruments used had been validated, it was assumed that they would effectively measure all of the variables included in this study. It was further assumed that participants in the study were a representative sample of the study, had interest in participating in the study, and described their experience as PMs in their organizations.

There was a number of limitations in this study, the first of which was the survey instruments that were created by combining sections from three different survey instruments that had not been used in any past studies. Another limitation of both the online survey and surveys in general is that there was no way to guarantee that the respondents belonged to the population being studied, nor that they answered the questions honestly. Additionally, when using a Likert-type scale, there could be different views of the intensity and differences between *strongly disagree* to *strongly agree*.

Furthermore, accessing social computing in the workplace and on a project site may have been an issue depending on the organization's policy currently in place. An employee's usage or contribution to social networking in the workplace could be potentially impacted depending on the organization's policy regarding the use of social computing; thus, these were some limitations that could have been encountered. There

may have been restrictions on the types of social networking websites that can be accessed using a work computer.

Organization of the Remainder of the Study

The focus of Chapter 1 was the introduction to the study and its underlying components. The key components included the background of the study, the problem statement, purpose statement, and research questions of the study. The nature and significance of the study were introduced, as well as a brief overview of the methodology that the study utilized. The Chapter 2 literature review to follow is a comprehensive search of relevant scholarly journals from online and land based data sources. Chapter 3 addresses the research methodology and design. Chapter 4 presents the data analysis and research results. The interpretation of the findings, conclusions, and future research recommendations are presented in Chapter 5.

CHAPTER 2. LITERATURE REVIEW

The Internet and social media tools are fast becoming a part of how employees interact, communicate, and conduct business with each other (Leigh & Sherry, 2010; Schettini & Weiss, 2011), which is especially true for project managers. The purpose of this quantitative, nonexperimental, survey research is to examine the extent of the relationship between social computing networking (SCN) and the factors of workplace engagement, and ethical behaviors as they relate to project managers from public sector organizations. As such, this literature review focuses primarily on the three variables.

The literature search strategy included accessing both online and land based libraries. A combined total of more than 100 peer reviewed, scholarly journals, and books were reviewed for this literature review. The primary databases used included the following: Capella University Library, Academic Search Premier, Business Source Complete, Dissertation and Theses Full Text, EBSCO Online, Proquest Business, and Google Scholar. Key descriptors consisted of phrases and keywords. Among them were terms such as social computing networking, social media, computing, workplace engagement, corporate social responsibility, employee, engagement, and workplace ethics.

The review addressed three research questions:

RQ1: What is the extent of the relationship between the use of SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously?

RQ2: What is the extent of the relationship between the use of SCN and workplace engagement among project managers?

RQ3: What is the extent of the relationship between the use of SCN and ethical workplace behaviors among project managers?

This review begins with a discussion of the theoretical framework, followed by an examination of existing literature on the topic. The major headings focused on the constructs of SCN, workplace engagement, and ethical workplace behaviors.

The Theoretical Framework

The primary research question of this study asked, what is the extent of the relationship between the use of SCN, workplace engagement, and ethical workplace behaviors of project managers? A review of the literature revealed that the relationship between the use of SCN, workplace engagement, and ethical workplace behaviors could be explained through the social identity theory.

Lindgreen and Swaen (2010) posited that when organizations invest strong relationships with their members, both parties are more likely to work towards the achievement of common goals. The theory also proposed that a membership can describe employee behaviors, perceptions or even thoughts and feelings. Drawing upon the social identity theory, this study provides the employee's (project managers) view on social media networking, workplace engagement, and ethical workplace behaviors to fill the existing gap in research.

The social identity theory was viewed in conjunction with other empirical findings from business ethics and workplace engagement research. The goal of social identity theory is to explain group processes, inter-group relations, and the social self

(Pearce, 2013). The key premise is that everyone is influenced to some degree by social identity and that a person develops a unique personal identity based on the groups to which he or she belongs. The theory played an important role in this study because it helped explain the construct of social networking relevant to project managers and the associated behaviors around the construct. Social identity theory suggested that the usage of SCN would trigger behaviors consistent with the group prototype (O'Fallon & Butterfield, 2012).

The Concept of Social Computing Networking

One of the first challenges presented by the literature is the lack of a universal definition of social computing networking. Social computing networking is a new paradigm for automatically composing pervasive software systems that draws heavily on the knowledge provided by social networks (Esfahani & Malek, 2010). Unlike traditional software composition methods, social computing targets the end-users. The terms social network and social media are sometimes used interchangeably even though they represents different aspects of the social computing technology.

Since the early years of the 2000s, social computing has been one of the most innovative and dynamic trends on the Web. Blogs, wikis, social networks, micro-blogging, and other activities engage people in collective activities via the Internet (Fu, Finn, Rasmus, & Salkowitz, 2009**).** Social media deals with the tools of the trade while, social networks deals with the people who are involved in the communications.

A study reported by Parameswaran and Winston (2007) described social computing as enabling, encouraging, and often capturing the often unstructured interactions between individuals. Some researchers defined social computing network in

context of their extensive writing and research studies, while relating this trend to rival those of dot.com explosions of the mid-1990s (Parameswaran & Winston, 2007). Web 2.0, online communities and social computing are all classified under the umbrella of social computing network (Fu et al., 2009**).** Web 2.0 may be described as changes in technology and web site design to enhance information sharing, collaboration, and functionality on the Web (Reynolds, 2010), This advancement in web sites functionality has not only impacted the way browsers view the site, but the way businesses are using the web services and tools in their everyday operations.

Social computing affects several aspects of public services such as:

- The front office (citizen-government relations),
- The back office activities of public administrations
- Leading to new forms of Information and Communication Technology-enabled participation,
- The capability of enhancing users' social awareness and involvement.
- Transforming relationships and ways of working within public sector organizations. (Huijboom, van den Broek, Frissen, Kool, Kotterink, Nielsen, & Millard, 2009)

In addition, Huijboom et al. (2009) claimed that social computing opens the way to innovative service delivery mechanisms that include Social Media (Tools) and Social Networks (People). The Web 2.0 and social media terms do not simply group Internet tools such as social networks, blogs, and content sharing. Those terms further denote a cultural phenomenon evolving around widespread user participation, and social interaction (Kim, Jeong, & Lee, 2009). In the public sector, authorities can use social

media to foster citizen participation, increase transparency and engage with diverse types of stakeholders.

Gross and Acquisti (2005) discussed the intense rise in social networking over the past few years. Vast numbers of individuals, in the millions not only share their personal data with large friend networks, but they also do the same, often unwittingly, with people they do not know. Gross and Acquisti analyzed social networking behaviors of over 4000 students in Carnegie Mellon University on Facebook, a social networking site that was originally intended for college students. The researchers studied how much information was shared and how the students used the site's privacy settings. Even if an individual is linked to a hundred or more friends, through the networks, they are linked to thousands more who are usually absolute strangers. Still, these individuals go on and reveal personal information freely and publicly. Gross and Acquisti found that very few users engage in monitoring their privacy settings. The study uses quantification of patterns of how students reveal information and inference of privacy settings from the field itself rather than from studies conducted in a laboratory or in surveys.

The study quantifies patterns of information revelation and infers usage of privacy settings from actual field data, rather than from surveys or laboratory experiments (Gross & Acquisti, 2005). The researchers found that the students provide data with impunity, and hardly ever change privacy preferences that are there by default, all of which expose the users to cyber and even physical risks. They allow third parties to easily develop online records of their behavior. The authors claimed that the evidence is well-matched with a signaling hypothesis in which the users believe that which they disclose freely with the public has more benefits than costs. Gross and Acquisti conceded that users may

not appreciate or understand the defaults and how permeable they are. Furthermore, they concluded that peer pressure and even herding behavior may be factors that influence social networking as well as a naïve idea that the boundaries of the campus community will somehow protect the users (Gross & Acquisti, 2005).

Kuo and Tang (2011) proposed another study on Facebook, about 6 years after Gross and Acquisti (2005). At that point, Facebook was becoming widely used not by students alone but by the general population not only in the United States but globally. At the time of their study, Facebook had about half a billion users and was rapidly growing. Researchers had been intrigued by how Facebook impacted the social lives of many. The goal of Kuo and Tang's research was to test relationships among usage of social network sites and people's personality and leisure activities, which was their proposed conceptual model.

Kuo and Tang (2011) planned to use an instrument based on a 7-point Likert-type scale of time spent known as the American Time Use Survey in which the six scales were communicating and socializing; participating in sports, recreation, and exercise; reading and thinking; watching television; using the computer for relaxation and playing games; and other activities such as travel. The study was proposed for the Fall of 2011; thus, the article explored the literature on social networking that involve leisure time and personality, and the authors had not reached any conclusions. Still, they hoped that their study would "improve [their] understanding of the impacts of personality on social network sites and leisure activities and interaction between social network sites and leisure activities" (p. 6).

Social Computing in Corporations

In a white paper published by Microsoft, a leading developer in the computer software industry, the authors expressed that social computing is a term with many meanings. Fu et al. (2009**)** referred to social computing as the natural evolution of collaboration: a shift from a focus on content to a focus on people the power of social computing lies with the users and the communities. Organizations obtain business value from the experiences and ideas produced through the use of these collaboration technologies that are modeled after natural social behavior. The common term for such technologies on the Internet is Web 2.0, and, in the enterprise setting, Enterprise 2.0.

Fu et al. (2009) argued that social computing capabilities are critical in the new world of business and the global knowledge economy. Social networks are conduits for people to contribute the personal knowledge and talent that can differentiate firms from their competitors (p. 3). As businesses become more complex, distributed, and dependent on input from customers, partners, and governments, social computing technology can facilitate conversations across time and distance. This explains Fu et al., builds the social capital that all businesses need to operate effectively.

In addition to these generalized benefits, social computing supports strategic business goals that include: (a) providing ways to capture and share tacit knowledge; (b) enabling people to find and engage experts inside and outside the organization; (c) helping organizations attract and retain young talent, and (d) Increasing organizational productivity (Fu et al., 2009). The main objectives are to generate ideas and facilitate conversations that lead to rapid innovation and are socially critical to the continuity and competitiveness of businesses. This is especially true for organizations faced with the

retirement of baby boomers during the next 10–15 years and the virtualization of organizations through outsourcing and telework (Fu et al., 2009).

Raeth, Urbach, Smolnik, and Butler (2012) addressed corporate adoption of social computing and discussed social computing applications. These applications included weblogs, wikis, and social networks and have begun to shape the way we communicate and collaborate. Wikipedia is one of the most used websites worldwide and Facebook would rank third in terms of population in the world if it was a country (Raeth et al., 2012).

Younger users accept the Internet and social computing applications as the norm in their social and day to day life (Raeth et al., 2012). They manage their social life through Facebook, Twitter, Instagram, or other similar applications. Organizations have most certainly noticed the remarkable success that social computing has, leading many organizations to invest in social computing applications to facilitate their interaction and knowledge work (Raeth et al., 2012). Social computing applications enable people to form online communities, and share user-created contents (Kim et al., 2009; Raeth et al., 2012). However, in spite of their growing interest, many firms remain uncertain about the implementation and acceptance of social computing applications (Andriole, 2010; Bughin, Byers, & Chui, 2011).

Social Networking in the Corporations

Social networking is an informal communication done through sites to connect on a grassroots level. Posting can be done through text, video, photos, audio or nearly any other source (Mamaghani, 2013). Examples of these types of sites are Facebook, Twitter, Instagram, and Linkedin. With access to Internet-connected computers and mobile

devices in the workplace, these become valuable communication and marketing tools (Kleinschmidt, 2009). Many employers and organizations advocate for the use of social networking in the workplace to improve business-to-consumer communication and relations; more importantly, to keep the younger generation of employees happy (North, 2010; Reynolds, 2010).

Miller-Merrell (2012) described *social networking* as a tool to recruit, retain, and develop relationships with past and present employees as well as future candidates. Social computing networking has captivated the corporate world as organizations seek to engage with customers to build brand advocacy. The business world has begun using social technologies to achieve numerous goals, including recruitment, service innovation, brand management (Bughin, Byers & Chui, 2011). For example, insurance companies now use social computing for underwriting policies. In turn, the manufacturing sector has successfully used it for project management and compliance.

The Effect of Social Computing Networking in the Workplace

Cilliers (2013) posited that businesses need to fully transform to properly address the impact and demands of social media. Although social media is still a relatively new concept, its influences on workplace dynamics could cause difficulties if left unregulated. As previously mentioned, technological and media advancements provide many advantages in the workplace. Apart from the risks that social media poses in the workplace; it can also positively influence employment.

In a recent survey reported by Cilliers (2013), more than half of 1500 college students (56%) said that if they encountered a company that banned access to social

media, they would either not accept a job from it or would accept the job and find a way to circumvent corporate policy. Similarly, a survey found that 33% of young Professionals made the decision to accept or reject a job offer based on the company's policy on social media and restrictions. Increased employee use of technology is resulting in greater rates of employee misuse and discipline for such misuse. Most employers have drafted workplace policies to address employees' use of social media and their potential misuse of employers' systems. Generally, these policies do not encompass all the applicable aspects and safeguards necessary to create clear, enforceable rules or to ensure that employees comply with the provisions (Cilliers, 2013).

Project Management and Social Computing Networking

The problems addressed in this study are decreased workplace engagement and unethical behavior of project managers stemming from the increased use of SCN in the public sector workplace. Public sector agencies are those that are wholly or substantially owned by government (Munivenkatappa & Reddy, 2012). Managing business in these agencies requires competent, effective, and a loyal workforce to run the organization profitably and create value to the stakeholders (Boardman et al., 2010).

Project management practitioners understand that their ultimate objective is to get projects finished on time and on budget. However, their biggest challenge is managing the unexpected that inevitably emerges during their projects (Chen-Tung, Ping-Feng, & Wei-Zhan, 2013). Making order out of chaos is what truly defines the quality of a project management professional. In light of this reality, great project managers understand that the project management tools developed to assist them in their work must be carefully selected so that they facilitate their success.

Why is social computing networking important to project management? Communication is a key aspect of project management. Social media, the latest buzzword in the communications industry, is appealing to large and small business alike. Knowledge-rich peer networks enhance project managers' ability to get work done (Chen-Tung et al., 2013; Clark & Roberts, 2010). Social computing networking allows project management professionals from around the world to tap into a bottomless pool of knowledge whenever the need arises. Without involving a search engine, academic tome, or an advanced degree, social media makes project management best practices and the experience of industry leaders accessible to any organization (AtTask, 2009).

The Concept of Workplace Engagement

Miller-Merrell (2012) reported that more than 81% of employees work using their personal mobile device and nearly 340 million tweets posted via the Twitter social-networking site. Mobile technologies are providing companies opportunities to engage employees using text messages sent to employee personal devices, alerting them to emergency announcements or important messages segmented by location, group, or job title. Miller-Merrell (2012) described two types of workplace engagement: internal and external engagement. From a technology perspective, e-mail was the preferred method of internal communication since the adoption of computers.

Defining Engagement

A challenge presented by the literature was the lack of a clear and universal definition for *workplace engagement*, often referred to in the literature as *employee engagement*. The search for "workplace engagement" yielded a myriad of meanings and definitions that varied among disciplines. Macey and Schneider (2008) defined employee

engagement as having both attitudinal and behavioral components. They define employee engagement as a desirable condition that has an organizational purpose, and connotes involvement, commitment, passion, enthusiasm, focused effort, and energy. Kahn (1990) defined employee engagement as personal engagement as an expression of a person's preferred self in task behaviors that promote connections to work and to others, personal presence such as physical, cognitive, and emotional and active, full role performance.

Macey and Schneider (2008) explained that the sources of confusion in definitions of engagement are due to the fact that some school of thoughts defined engagements attitudinally and some behaviorally. In a simplistic term, engagement is characterized by employees being committed to the organization, believing in what it stands for, and being prepared to go above and beyond what is expected of them to deliver outstanding service to the customer (Cook, 2008). Furthermore, employee engagement is more a psychological contract than a physical one. It is something the employee has to offer, innate born behavior. Just like in any other organizational setting, employees make choice about how they behave and the extent to which they are engaged.

Cook (2008) further explained that engaged employees feel inspired by their work, they are customer focused in their approach, and they care about the future of the company and are prepared to invest their own effort to see that the organization succeeds. Research shows that engaged employees are also productive employees. According to Gallup Poll (2008), 50% of workers are not engaged in the workplace and 20% of those are actively disengaged. Due to the nature of this research study, the analyses of the various constructs associated with employee engagement were not necessary.

In a recent Conference Board report, Gibbons (2006) conducted an extensive meta-analysis on employee engagement. A composite definition of employee engagement was defined as a: "heightened emotional and intellectual connection that an employee has for his/her job, organization, manager, or co-workers that, in turn, influences him/her to apply additional discretionary effort to his/her work" (p. 5).

Gibbons (2006) acknowledged that many researchers have different operating definitions and different research methods of employee engagement, often making it difficult to determine the degree to which individuals are engaged. One factor that was particularly noted on employee engagement was large versus small companies. Gibbons claimed that large companies face greater challenges in engaging their employees than smaller companies. The levels of employee engagement at small companies were compared to larger companies with more than 5,000 employees. The results showed that small employees of small companies were more proud of their companies (57%) compared to 45%), were highly satisfied with their everyday work (64%), were more likely to feel that their senior managers displayed integrity and morality, and in general were very satisfied with the company they worked for.

Although numerous factors were reported which may determine employee engagement, Gibbons (2006) did not provide a discussion of major social trends, such as social networking and social media, which may affect employee engagement. However, the report revealed some key challenges to organizations in managing their relationships with their employees. It was suggested that large companies need to work harder than smaller ones to make it easier for employees to see the effects of their individual contributions on the overall performance of their company. Also organizational leaders

should strive to provide personal and professional enrichment opportunities that are flexible and relevant to employees who are at different levels of the company, in different age groups, and are in different places in their careers.

Gallup Q12 (2010) reported the following results in organizations with high levels of employee engagement versus those organizations that reported low levels of engagement:

- 50% higher levels of employee retention.
- Levels of customer loyalty 56% higher than average.
- Reported 38% above the average productivity ratings.
- Returned 27% higher profitability than organizations where employees were not highly engaged (Gallup Q12, 2010).

Frauenheim (2009) posited that the average American worker spends between 21% and 26% of his or her paid time engaged in personal activities online, which is evidence of less workplace engagement and unproductivity. In a study conducted by North (2010), participants were asked their opinion of the biggest problem with the use of social networking in general in the workplace. Forty-seven percent of the participants indicated they tend to become addictive and waste time as the biggest problem.

The Utrecht Work Engagement Scale (UWES)

Work engagement as used in this study is defined as a positive, fulfilling work-related state of mind that is characterized by vigor, dedication, and absorption (Schaufeli, Salanova, Gonzalez-Romá, & Bakker, 2002). Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior. Vigor is

characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties.

Schaufeli and Bakker (2004) described dedication as being strongly involved in one's work and experiencing a sense of enthusiasm, inspiration, and challenge. Finally, absorption is characterized by being fully concentrated and happily engrossed in one's work. The individual feels that time passes quickly, subsequently the individual experience difficulty with work detachment. In other words, vigor and dedication are considered direct opposites of burnout.

Schaufeli and Bakker (2004) reported on the development of a short questionnaire to measure work engagement. Data were collected in 10 different countries (N = 14,521), and results indicated that the original 17-item Utrecht Work Engagement Scale (UWES) could be shortened to 9 items (UWES-9). The factorial validity of the UWES-9 was demonstrated using confirmatory factor analyses. The results confirmed that the UWES-9 scores had acceptable psychometric properties and that the instrument can be used in studies on positive organizational behavior.

Despite widespread use of the UWES-9, there was still a question raised concerning the construct validity dimensionality of the UWES–9. In a recent study, De Bruin and Henn (2013) examined the construct validity and scoring of the UWES–9 to determine if it is accurately measured. The authors examined the scale's general factor saturation, the effect of multidimensionality on the interpretation of the total score, and the convergent and discriminant validity of its subscale scores. In summary, the results provide explicit empirical support that researchers should use the total score for the UWES–9, rather than separate subscale scores. The observed lack of discriminant

validity indicated that the three subscale scores should not be used as separate independent variables or as separate dependent variables. In univariate or multivariate applications of the general linear model a summed total score across the nine items would suffice.

Other researchers have analyzed the UWES on a variety of levels. For example, Mills, Culbertson, and Fullagar (2012) critiqued the method by which the original 17-item UWES-17 and the recent shorter 9-item UWES-9 was developed. Mills et al. (2012) empirically reevaluated the appropriateness of the original scale development using more theoretically sound methodology and factor extraction techniques. The shorter UWES-9 version was evaluated and compared to the original longer version. Mills et al. concluded that the UWES-9 could serve as a viable and perhaps even preferable alternative to the longer UWES-17. In two separate studies, the UWES- 9 yielded much the same results as did the UWES-17, in addition to yielding a cleaner and more consistent factor structure over the UWES-17 in each analytic step. Despite the fact that the UWES-9 yielded some inconsistent results in the second study, the researchers believed that the results for that version were sample-specific and potentially due to either the nature of the sample or problems with Item 14 in the absorption factor (‘‘I get carried away when I am working’’), which should be further investigated by future research.

This article was significant to demonstrate the most recent test of the UWES-9 instrument which is used to measure workplace engagement in this study. As a result of these findings, the researcher took the appropriate steps to insure that the UWES-9 scores had acceptable psychometric properties and that the instrument can be used in the study to address its research questions and problem.

The Concept of Ethical Workplace Behaviors

A key component of this study is the construct of workplace ethical behaviors. Loosely defined, workplace ethical behaviors mean the moral right and wrong arising in the context of business practice (Drover et al., 2012). An ethical workplace environment is an atmosphere of respect and tolerance for everyone. An ethical workplace strives to conduct business in a manner that is beneficial to owners, employees and customers. Huhtala, Feldt, Lämsä, Mauno, and Kinnunen (2011) posited that the ethical aspect of organizational culture refers to the principles of right and wrong in an organizational context. The key tenent is that these principles create conditions that help explain and predict the unethical behavior of managers and employees. These principles govern the exchanges of organizational members when they are engaged in organizational activities (p. 233). Situations requiring ethical consideration in a work context can be different from everyday ethical challenges met in other domains of life.

Huhtala et al. (2011) supported the idea that if the organization encouraged and expected ethical decision-making, the employees were more likely to make ethical choices. The premise is that stronger ethical culture encourages ethical conduct and supports the development and maintenance of ethical leadership in organizations. The ethical culture of organizations was found to have an influence on organizational commitment if the culture was perceived as ethical. That is, employees appear to be more committed to the organization.

A generally accepted definition of ethics is that it is the study of what is good and bad, right and wrong, just and unjust (Cavanagh, 1984). According to Cavanagh, “ethics is a system of moral principles and the methods for applying them; ethics thus provides

tools to make moral judgments. (p. 137). Dixon (2011) posited that managers spend most of their time dealing with people issues instead of project management principles. In reality, people skills are the hardest skills to manage.

Robles (2012) claimed that technology profoundly impact skills that employers want from business graduates today; however, the shift from an industrial economy to an information society means that many jobs now place an emphasis on integrity, communication, and flexibility. That is more employers are seeking employees with integrity, ethical, high morals, and personal values. The demand for project management skills in industry is increasing (Poston & Richardson, 2011). However, technical skills in today's workplace are not enough to keep individuals employed when organizations are experiencing down-sizing and cutting positions.

One of the most important responsibilities that is placed on the leaders of organizations is upholding the highest standards of ethical behavior (Wilhelm, 2004). In a nutshell, this comes down to doing the right thing even when the wrong thing might also have some attraction (Boatright, 2013). Work-place ethics are most often related to decision-making processes. Most leaders face the opportunity to choose between alternative courses of action in their work situations and other aspects of their lives. Work-place ethics refer to choosing the option that is determined to be the moral or right choice, even if the other alternative(s) are very attractive (Millage, 2012).

According to a recent report from the Ethics Resource Center (2011), employees who break the rules hurt morale, reduce efficiency and profitability, and expose the company to legal liability. In a 2011 National Business Ethics Survey (NBES) of Fortune 500 companies, most employees reported that an ethical environment is a better

workplace. Employees can focus on doing their jobs well, without the distractions or anxieties created when co-workers break company rules or even violate the law. The survey included questions about social networks and the people who actively use them. Active social networkers were defined as employees who spend 30 % or more of their work day participating on various social network sites (Ethics Resource Center, 2011). Active social networkers reported far more negative experiences of workplace ethics. As a group, they were almost four times more likely to experience pressure to compromise standards and about three times more likely to experience retaliation for reporting.

Millage (2012) reported that the most common forms of misconduct in organizations include personal business on company time (29%), abusive behavior (22%), lying to employees (21%), discrimination and health/safety violations (18%), and Internet abuse (17%). The majority (59%) of respondents say their companies have a strong or strong-leaning ethical culture. Respondents report their leaders and co-workers support following ethics standards (71%) and set a good example of ethical conduct (70%). The key tenent of the study was that strong ethical cultures promote workplace integrity and reinforce employees' commitment to the organization (Millage, 2012).

Clarke (2011) argued that the need for a more ethical workplace is no longer debated. It is also a demonstrable fact that there is a colossal failure of the current strategies employed to control unethical conduct in the workplace. Laws have been enacted, codes have been written, oaths have been taken and pledges have been made but they all fell short of their objectives. Boatright (2013) contended that creating a culture of integrity required a well-articulated code of ethics that explicitly tells employees how they are expected to act, the manner in which goals and objectives are to be achieved, and

the type of behavior that would not be tolerated. Equally important, a culture of integrity requires an incentive system that is consistent with and promotes the organization's values and vision. Because an incentive system has such a tremendous impact on behavior, it must include criteria for promotions, and bonuses that encourage and reward behavior that is consonant with the organizations' values (Boatright, 2013).

According to Huhtala et al. (2011), Kaptein (2008) pioneered the construct of ethical organizational culture, which focused on the ethicality of corporations in terms of their virtues. The Corporate Ethical Virtues model (CEV model) developed by Kaptein (2008) distinguished among eight virtues designed to promote ethical behavior in managers and employees in an organization. Kaptein described these virtues as (a) *clarity*, concrete and understandable expectations regarding the conduct of employees; (b) *congruency of supervisors*, in which supervisors model good examples in terms of ethics; (c) *congruency of management*, the senior management behaves in accordance with ethical expectations; (d) *feasibility,* conditions created by the organization to enable employees to comply with normative expectations; (e) *supportability*, the organization supports ethical conduct among management and employees; (f) *transparency,* the degree to which the consequences of the conduct of managers and employees are perceptible; (g) *discussability,* the opportunity to discuss ethical issues or alleged unethical behavior; and (h) *sanctionability*, punishment for behaving unethically, and rewards for behaving ethically.

Based on the CEV model, Kaptein (2008) developed a self-reporting questionnaire to measure the ethical culture of organizations. Of the eight virtues, clarity was the one most visibly embedded within the U.S. organizations studied and the one

which improved. In this report, Kaptein emphasized that the CEV scale can be used for evaluating the ethicality of an organizational culture, which in turn can help managers become more conscious of ethical issues to reduce ethical strain. As in this present study, the overarching aim of Kaptein was to enhance the well-being of the organization's members, leading to benefits for both the individual and the organization as a whole.

Ethical Considerations for Project Managers

Carden and Boyd (2012) argued that behaviors in organizations are both ethical and legal and are the underlying basis for enhancing competitiveness, controlling the bottom line, and marketing an organization's image. Carden and Boyd summarized a case study which discussed the importance of ethical and legal behaviors of project managers in the context of the case. The author's aim was to show the application of unethical and illegal behaviors that were misaligned with Project Management Institute's Code of Conduct (PMI, 2013). Carden and Boyd's (2012) position is that project managers are key factors contributing to projects being delivered on time, within budget and meeting requirements. For these reasons, project managers have a responsibility to be leaders in creating an ethical environment in which the project team can operate, and to see the expectation for team behavior by their own conduct.

Because of the unfavorable publicity on the dealings of corporate America, ethical practices for project managers grew in importance in the last few decades (Drob & Vichil, 2013; Driscoll & Hoffman, 2009; Kerzner, 2009). Bouley (2007) noted that project managers adhere to a code of ethics established by the Project Management Institute (PMI, 2013). Many employees reported they had seen self-serving behavior at

the expense of employer, client, peers or the public (46%), disrespectful behavior (57%), unfair behavior (47%), and irresponsible behavior (32%) (Bouley, 2007).

Discussion

A growth in consumer and media ethical consciousness has resulted in the need for organizations to ensure that members understand, share, and project an approved and unified set of ethics (Granitz, 2003; Taylor, 2011). Thus understanding which variables are related to workplace engagement and ethics is critical. The primary research question of this study asked: What is the extent of the relationship between the use of social computing networking, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously? The researcher hypothesized that there is at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers.

There is a large body of literature on the impact of social computing, work engagement, and workplace ethics; however, the literature showing a relationship between the individual constructs remain relatively unexplored. The issue of employee engagement and employee ethics was discussed in the literature, however, this tended to be in relation to employees' attitudes toward SCN. Social networking is highlighting differences in workplace ethics (Ethics Resource Center, 2011) It is clear from the literature reviewed that technology is altering employees' perceptions about proper conduct and organizations are beginning to realize that active social networkers are more responsive when it comes to workplace ethics. The premise is that the more employees are engaged with social networks while in the workplace, the more likely they are to report misconduct (Ethics Resource Center, 2011, p. 50).

The 2011 NBES survey suggested that social networkers were somewhat more likely to say good things about their employers and their co-workers than they were to make negative comments on their social networks. These findings suggested that social networking is a perfect venue and presents an opportunity for organizational leaders to engage employees around their ethics standards. The premise is that as employees become more active on social networks, the more they become aware of behaviors that could pose business risks (Ethics Resource Center, 2011).

As the literature indicated, the Internet and social media tools are fast becoming a part of how employees interact, communicate, and conduct business with each other (Leigh & Sherry, 2010; Schettini & Weiss, 2011). This is especially true for project managers. Schettini and Weiss (2011) reported that more than two thirds of 181 project managers surveyed in 32 countries believed that social media is a key issue for their industry. Of all the organizations polled, 76% used online networking tools for managing projects. Aside from communication, project managers used social media tools for collaborating on tasks (34%), task tracking (19%), and hosting online meetings (32%) of the time.

Government agencies with over 45,000 government employees look to SCN tools to boost productivity (Nath, 2011). One example is Govloop, the largest social network for government employees with which users can do anything from getting their questions answered to building relationships (Nath, 2011). Aguenza and Som (2012) argued that accessing SCN affects productivity negatively, leading to a decline in Workplace engagement. The Ethics Resource Center (2011) reported that 45% of U.S. employees observed a violation of ethics at work, especially employees between the ages of 18 to 24

years old. In a recent survey, project managers indicated they used social media in chatting and blogging (67%), and other online community activities (62%) (Schettini & Weiss, 2011).

The average American worker spends between 21% and 26% of his or her paid time engaged in personal activities online, which is evidence of less Workplace engagement and unproductivity (Frauenheim, 2009). In a study conducted by North (2010), participants were asked their opinion of the biggest problem with the use of social networking in general in the workplace. Forty-seven percent of the participants under age 30 indicated they tend to become addictive and waste time as the biggest problem. Although, research showed that SCN tends to contribute to decreased Workplace engagement and unethical employee behaviors (Ferreira & du Plessis, 2009; Lin & Lu, 2011; North, 2010), there is a significant gap in the literature concerning the impact of SCN on project managerial networking behaviors.

The use of social networking creates challenges for managing risks to individual and organisational reputations alike. It is not known how project management (social networkers) use of social computing tools in the workplace is related to work ethics and work engagement as a means of exchanging information about individual concerns. The question then becomes what do social networkers and business ethics have in common? The term *social networkers* were defined by Ethics Resource Center (2011) as those who spend 30% or more of their day on social networking sites. According to new data published by the Ethics Resource Center in its 2011 National Business Ethics Survey, the more time that employees spend during their work day communicating or participating in social networks, the more likely they are to face business ethics dilemmas.

Carden and Boyd (2012) maintained that an organizational code of ethics needs to include a sanctioned practice from top management about the importance of the execution of the code. The Code of Ethics provides a tool to facilitate an ethical dialogue whether within or across cultures (Michaelson, 2010; PMI, 2013). At a minimum, the code of ethics should contain a list of steps outlining the actions and behaviors of employees and others who may be involved in the execution and outcomes of the codes (Driscoll & Hoffman, 2009). There should be clearly defined objectives and goals; the most recent federal and state laws, and industry regulations.

Summary

This chapter presented a review of current journal articles and recent publications on the topic of social computing networking, workplace engagement, and ethical workplace behaviors of project managers. The literature review clearly indicated that social networks satisfy employees' needs to feel connected. More companies are getting over their fears of social technology and are embracing networking tools to help employees connect and collaborate (Corrada, 2012).

Organizations that seek to attract a bright and capable workforce must also plan to engage them actively by using social technology. This type of awareness and knowledge generation also has the potential to increase employers sensitivity and increase positive attitude towards the new generation employees and then aim to design work products around their needs. Business leaders recognize that engagement is the best way to glean value from the knowledge exchanged in social media employer. This body of research continues with Chapter 3 that addresses the research design and methodology.

CHAPTER 3. METHODOLOGY

Chapter 3 is an account of the study's methodology that includes a restatement of the research problem, purpose, research questions and hypotheses, the research design, sample, instrumentation, data collection, data analysis, validity, reliability, and ethical considerations. The chapter is concluded with the study methodology.

The research was conducted to examine the relationship between social computing networking (SCN), the factors of workplace engagement, and ethical behaviors as it relates to project managers from public sector organizations. The problem is decreased workplace engagement and unethical behavior of project managers in public sector agencies using SCN applications. The purpose of this quantitative, non-experimental, survey research was to examine the extent of relationship between SCN (IV) and the factors of workplace engagement (DV), and ethical behaviors (DV) as it related to project managers within the public sector.

The study population under investigation was project managers from Federal Government Agencies situated in the Southeastern regional area of U.S. The Utrecht Workplace Engagement Scale (UWES) designed by Seppälä, Mauno, Feldt, Hakanen, Kinnunen, Tolvanen, & Schaufeli (2009) and the Workplace Ethics Behavior Survey instrument by (McMinn, Buchanan, Ellens, & Ryan, 1999) were used to measure the constructs.

The research study was directed by the following research questions and hypothesis statements:

RQ1: What is the extent of the relationship between the use of SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously?

$H1_0$: There are no relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers.

$H1_A$: There is at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers.

RQ2: To what extent are SCN and workplace engagement related among project managers?

$H2_0$: There is no relationship between use of SCN and workplace engagement of project managers.

$H2_A$: There is a positive relationship between use of SCN and workplace engagement of project managers.

RQ3: To what extent are SCN and ethical workplace behaviors related among project managers?

$H3_0$: There is no relationship between use of SCN and ethical workplace behaviors of project managers.

$H3_A$: There is a positive relationship between use of SCN and ethical workplace behaviors of project managers.

Research Design

The research design for this study was a nonexperimental quantitative survey research, using random sampling, and correlational, multiple regression analysis. Quantitative research is designed to answer certain social problems into specific areas; such is the case with this study dealing with social computing networking access in the workplace (Creswell, 2009). The goal for a correlational study is to determine whether a predictive relationship exists between the variables (Ellis & Levy, 2009). Furthermore, Ellis and Levy (2009) described the quantitative correlational approach as having a primary focus of determining the presence and degree of a relationship between two factors or variables. According to Vogt (2009), correlation does not equate to causation, and correlational research design approaches provide weak or partial evidence about causation. As Vogt (2009) further stated, variables that are strongly linked causally may not be strongly correlated, and vice versa.

In this correlational study, there was no attempt to determine whether a cause-effect relationship existed, only to determine if a relationship existed between the study variables of SCN, WPE, and EWB. In other words, correlational research does not prove a relationship; rather, it indicates an association between two or more variables" (Creswell, 2009). Multiple regression analysis was used to test, analyze, and predict the relational effect on the variables. The primary audience for this study was Project Managers (PMs), public sector employees, and future researchers who may be interested in the outcome of the research findings. PMs were randomly selected and recruited to participate. Validated survey tools, UWES-17 and WEBS, were modified and use for distribution to PMs using the Survey Monkey database.

Population/Sample

The population in the study was comprised of PMs employed within the public sector located in the Southeastern regional U.S. Project Managers manage relationships and build trust within the team structure (Remidez & Jones, 2012). Project managers are organizational leaders who contribute to projects being delivered on time and within budget, managing risks and meeting project requirements. Project Managers have a responsibility to be leaders who perform in an ethical manner, creating an ethical environment in which the team can operate and to see the expectation for team behavior by their own conduct (Carden & Boyd, 2012).

The sample frame was comprised of all PMs who met the inclusion criteria for PMs in the Survey Monkey database and are involved in project management duties within the Southeastern U.S. According to Survey Monkey, there were approximately 900 individuals identified as PMs in the online database. The exclusion criteria were non-project managers, or PMs without SCN capabilities to manage their projects.

For this study, a random sampling method was used to ensure that the target population had an equal probability of being chosen to respond to the survey (Groves et al., 2009). Based on the sampling criteria provided to Survey Monkey, an administrator extended email invitations to all members in the database who met the criteria for participation in the study. After receiving an email notification, each participant had the opportunity to take the survey. Survey participants were provided an electronic consent form and information about the survey. This information helped participants to determine if they wanted to respond to the study.

The data analysis used in the study was demographics and multiple regression analysis. For the study, a 95% confidence level, with a confidence interval of +/- 5%, was used. G*Power 3.0 was used to determine the optimal sample size with a confidence level of 95%, a confidence interval of .05, power size of .80, to determine a sample size of 109. A total of 116 participants completed the study. The SurveyMonkey database was utilized to meet the desired sample size. The statistical package for social sciences (SPSS) was used for both data collection and data analysis respectively.

Instrumentation / Measures

The survey instrument was comprised of four parts. The first section of the research instrument was constructed of a seven (7) item demographics section. The second section featured 10 SCN questions about the current use of social networking websites and other types of social networking tools. The final two sections of the instrument were comprised of 17 questions and three (3) latent constructs from the Ultrecht Workplace Engagement Scale (UWES). The survey instrument was adapted from the UWES scale and pilot tested to test the validity and reliability of the instrument and to ensure its intended purpose in the research study. The UWES survey was adapted from two validated questionnaires used in prior research and pilot tested with successful results. The validity of the UWES scale has been demonstrated in previous research (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Upon approval of the Capella University IRB, a pilot test was conducted on a sample size with 25 participants. The participants in the pilot test met the same study criteria and conditions as the main study. Cooper and Schindler (2008) suggested that 25 to 100 responses were sufficient for a pilot study to determine the reliability and validity

of the instrument and to also receive responses that identified any confusing or inappropriate questions that did not determine how well the survey met the study objectives. Because the instrument was adapted for the study, the reliability of the instrument was tested using Cronbach's alpha. Cronbach's alpha is a measure of internal consistency to determine how closely related a set of items are as a group (Trochim, 2008). The pilot test indicated that the Cronbach's Alpha for the corresponding scales read 0.768 (SCN), 0.909 (WPE) and 0.711 (EWB). Since the scales were above 70% they were regarded as being reliable.

Data Collection

A sample frame of 900 project managers was solicited to participate in the survey. The data collection process consisted of the recruitment of participants using the LinkedIn Project Manager Alliance group and the SurveyMonkey database based on the inclusion criteria, introduction of the research study, a random sampling method to obtain 109 completed surveys and a signed electronic consent form. The data was analyzed after the participants completed the surveys to ensure the measures were free from error, there was no missing data in the completed surveys and the study results produced consistent results. The UWES scale consisted of three (3) underlying factors: vigor, dedication, and absorption.

The 17-item research instrument total estimated completion time is approximately 10 minutes. The survey results was downloaded from the SurveyMonkey server onto the researcher's computer and analyzed in SPSS. The reliability and validity of the study data was using Cronbach's alpha using the F-test to test the validity of the multiple regression model. Statistical Package for the Social Sciences (SPSS) was used to conduct the

demographics and multiple regression analyses. An Analysis of Variance (ANOVA) was run to determine the relationship of the constructs in the study. When outliers are present, this assumption is violated (Trochim, 2008). Missing data values above 5% were considered as a large amount of missing data and was deleted using likewise deletion. The study data is stored on an external hard drive and placed in a secured environment for Capella's University required period of 7 years that will be later destroyed using a secure method.

Data Analysis

The survey data was analyzed using SPSS AMOS 17.0. Descriptive, inferential and multiple regression analysis were conducted. Structural equation modeling, a method that included aspects of both multiple regression and factor analysis in order to estimate a series of interrelated and dependent relationships was also used to analyze the data (Nerstad, Richardsen, & Martinussen, 2010). A confirmatory factor analysis (CFA) was also conducted to test whether the theoretical constructs were consistent with the actual reality of project managers using SCN (Nerstad, Richardsen, & Martinussen, 2010).

The multiple regression analysis was used to determine the extent to which workplace engagement and the ethical behavior of project managers in the public sector impacts the SCN on project manager behavior. For the three hypotheses statements (H1-H3), a regression analysis and inferential statistics measured the research constructs and research variables in the study. Regression analysis required several assumptions made about the normality of the distributed residuals. In addition, descriptive and inferential statistics was used to determine the means, standard deviations, and correlations for all

measures (Trochim, 2008). These research findings were used to accept or reject the stated null hypotheses (Trochim, 2008).

In addition, a demographic analysis was conducted to examine the relationship between SCN and the factors of workplace engagement, and ethical behaviors as it relates to project managers employed in the public sector. The demographic analysis helped to measure the dynamics and dimensions of the sample population in the study. Before applying regression analysis, the data was examined to determine whether the assumption of normality was met and whether parametric testing could be conducted. This process is called exploratory data analysis. For variables that did not appear to be normally distributed, they were examined for outliers in the study and/or transformed using higher order transformations to determine if they influenced the multiple regression analysis.

The research data was rated on a 5 point Likert-type scale ranging from 1 (always never) to 5 (always). Previous studies have shown that the internal consistencies (Cronbach's alpha) of the UWES-17 ranged between 0.75 and 0.83 for vigor, between 0.86 and 0.90 for dedication, and between 0.82 and 0.88 for absorption.

Validity and Reliability

The goal of the research study was to provide results that are valid, reliable, sensitive, unbiased, and complete (Collins, 2003). The validated UWES model was cited in many published studies measuring work engagement (Ravichandran, Arasu, & Kumar, 2011; Seppälä et al., 2009). A number of research studies on CFA have shown strong evidence of the three factor model of the UWES structure (Schaufeli & Bakker (2004), as cited in Extremera, Sánchez-García, Durán, & Rey, 2012). For example, internal consistencies have been found to be acceptable, generally ranging from .80 to .90

(Schaufeli et al., 2002). Furthermore, a vast amount of studies have confirmed that the three-factor model of the UWES scale is superior to a one-factor, the conceptualization of engagement (Mills, Culbertson, & Fullagar, 2012).

Ethical Considerations

The aim of the study was to protect the rights of the research participants during data collection and throughout this study. To do so, researcher complied with all principles and guidelines required by Capella's Human Research Protection Program (HRPP). This included complying with the principle of voluntary participation which required participants not to be coerced into participating in the study. Closely related to the notion of voluntary participation is the requirement of informed consent. Prospective research participants were fully informed about the procedures and risks involved in research and were provided an electronic consent form to participate. Ethical practices were ensured with the protection of the research data and analysis. The data will be stored on a USB flash drive in a secure environment for 7 years and later destroyed in a secure manner to protect the privacy of the participants.

Ethical standards also require that researchers not put respondents in a situation where they might be at risk of harm as a result of their participation. Harm can be defined as both physical and psychological. The researcher applied two standards to help protect the privacy of research participants, confidentiality and anonymity. Participants were assured that identifying information would not be made available to anyone who is not directly involved in the study and in the research. Participant's information remained anonymous throughout the study, even to the researcher.

All communications with participants in the study was guided by the fundamental ethical principles of justice (equity), beneficence (risk and benefit analysis), and respect for persons (confidentiality and privacy). In sampling, ethical procedures were guided through analyzing the accuracy of the research data and encrypting data downloaded from the SurveyMonkey online database. Each participant in the study had a reasonably equal chance of being selected through random sampling in compliance with the inclusion criteria. There was no compensation for participants in the study. None of the participants were identified by name or internet protocol (IP) address to the researcher. There was no relationship with the researcher or potential conflict of interest exhibited in the sampling process.

The connection with project managers in the public sector in a collaborative online environment such as SurveyMonkey, the researcher applied sound and ethical research best practices in the design, review and analysis of research data by promoting the values of responsibility, respect, fairness and honesty as the foundation of good research design as described in the Nuremberg Code, the Declaration of Helsinki, and the Belmont Report.

Summary

This chapter concentrated on the chosen methodology for the study. An emphasis was placed on the research questions and hypothesis, research design, population, sample size and sample frame as well as instrumentation and measures, pilot test, data collection and data analysis, validity and reliability and ethical considerations.

CHAPTER 4: RESULTS

Introduction

The purpose of this quantitative, non-experimental, survey research was to examine the extent of the relationships between social computing networking (SCN) and the factors of workplace engagement, and ethical workplace behaviors as it relates to project managers from public sector organizations. There are several reasons for examining the relationship between SCN, employee work engagement, and ethical workplace behaviors of project managers from government agencies.

This study can contribute valuable knowledge to the social science community and to those whose job practices and services deal with the organization's human resources affairs and particularly for those organizations that have yet to institute social computing network policies. Findings from this study will increase understanding of project manager needs that may be generational in nature and determine how organizations can respond to such needs.

The study population under investigation was project managers from the Federal Government Agencies situated in the Southeastern regional area of the United States. The Utrecht Workplace Engagement Scale (UWES) designed by Seppälä et al., (2009) and the Workplace Ethics Behavior Survey instrument by McMinn, Buchanan, Ellens, and Ryan (1999) were used to measure the constructs. Data collection was accomplished using the online services of the *Survey Monkey Group.* After data collection, survey responses to the survey were exported to SPSS for analysis.

Chapter four is organized by the introduction, sample demographics, descriptive statistics, reliability and validity analysis, research questions and hypotheses, and a summary of the results. The following provides a discussion of the sample demographics.

Sample Demographics

There were 116 project managers that completed the survey; 55.2% (n = 64) were males and 44.8% (n = 52) were females. Regarding occupational titles, 42.2% (n = 49) were project managers; 19% (n = 22) were program managers; and 18.1% (n = 21) were employees. A complete list of occupations is presented in Table 1.

Table 1
Occupation

Occupation	*N*	*%*
Business owner	11	9.5
Employee	21	18.1
Project Manager	49	42.2
Program Manager	22	19.0
Functional Manager	8	6.9
Other	5	4.3
Total	116	100.0

Approximately one-third (33.6%, n = 39) of participants had 0-5 years of experience as project managers; 22.4% (n = 26) had 5-10 years; and 19.8% (n = 23) had 10-15 years. See Table 2.

Table 2
Years of Project Manager Experience

Years of Experience	*N*	*%*	*Cumulative %*
0-5 years	39	33.6	33.6
5-10 years	26	22.4	56.0
10-15 years	23	19.8	75.9
15-20 years	11	9.5	85.3
20-25 years	10	8.6	94.0
25+ years	7	6.0	100.0
Total	116	100.0	

The majority of participants accessed social media through PC desktops; 65.5% (n = 76) accessed it through smartphones; and 63.8% (n = 74) accessed social media sites through laptops. See Table 3.

Table 3
Methods of Accessing Social Media Sites

Method of Accessing Social Media	*N*	*%*
PC Desktop	91	78.4
Mac	25	21.6
Laptop	74	63.8
Smartphone	76	65.5
Tablet	54	46.6
Other	1	0.9

Note. Total not provided since participants could select all that applied.

Six percent (n = 7) of respondents were not currently participating in the use of social networking; 34.5% (n = 40) regularly participated; and 59.5% (n = 69) occasionally participated. Participants (60.3%, n = 70) reported that their organizations had policies in place to address employee use of social media; 30.2% (n = 35) indicated

that their organizations did not have policies; and 9.5% (n = 11) of participants indicated that their organizations were currently working on policies. Approximately one-third (33.6%, n = 39) of respondents indicated that a small number of employees had access to organizational social media; 43.1% (n = 50) replied that all employees had access; and 17.2% (n = 20) indicated that some employees, but not all, had access. See Table 4.

Table 4
Summary of Responses in Number and Percentages

	N	*%*
A small number of employees have access to organizational social media	39	33.6
All employees have access to organizational social media	50	43.1
Some employees, but not all, have access to organizational social media	20	17.2
None of our employees has access to organizational social media	7	6.0
Total	116	100.0

For social computing networking, the values ranged from 1-4 (M = 2.91, SD = 0.58). For workplace engagement, the values ranged from 1.24-5 (M = 2.89, SD = 0.83). For ethical workplace behaviors, the values ranged from 1-4 (M = 1.95, SD = 0.65).

Reliability and Validity

Instrument reliability was computed with Cronbach's alpha. Reliability coefficients for the subscales were as follows; social computing networking: α = .786; workplace engagement: α = .935; and ethical workplace behaviors: α = .770. Construct validity of the instrument for the sample was investigated through confirmatory factor analysis using AMOS 17.0. With a comparative fit index (CFI) of .78, the presence of three factors was confirmed. Factor score weights ranged from .295 to .843 for workplace

engagement (Factor 1), -.057 to .737 for ethical workplace behaviors (Factor 2), and .051 to .634 for social computing networking (Factor 3) (see Appendix B).

Research Questions and Hypotheses

Three research questions and related hypotheses were tested. They were as follows:

RQ1: To what extent is there a relationship among SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously?

$H1_0$: There are no relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers.

$H1_A$: There is at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers.

RQ2: To what extent are SCN and workplace engagement related among project managers?

$H2_0$: There is no relationship between use of SCN and workplace engagement of project managers.

$H2_A$: There is a positive relationship between use of SCN and workplace engagement of project managers.

RQ3: To what extent are SCN and ethical workplace behaviors related among project managers?

$H3_0$: There is no relationship between use of SCN and ethical workplace behaviors of project managers.

$H3_A$: There is a positive relationship between use of SCN and ethical workplace behaviors of project managers.

Research Question One

To what extent is there a relationship among SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously? Research question one was investigated with structural equation modeling. Social computing networking was a significant, positive predictor of workplace engagement, β = .19, R^2 = .04, p = .034. Social computing networking was a significant, positive predictor of ethical workplace behaviors, β = .26, R^2 = .07, p = .004. The error term for workplace engagement was significantly correlated with the error term for ethical workplace behaviors, r = .51, p < .001. The CFI for the model = 1.00, which indicates a perfect fit for the data. The path diagram for the model is presented in Figure 1.

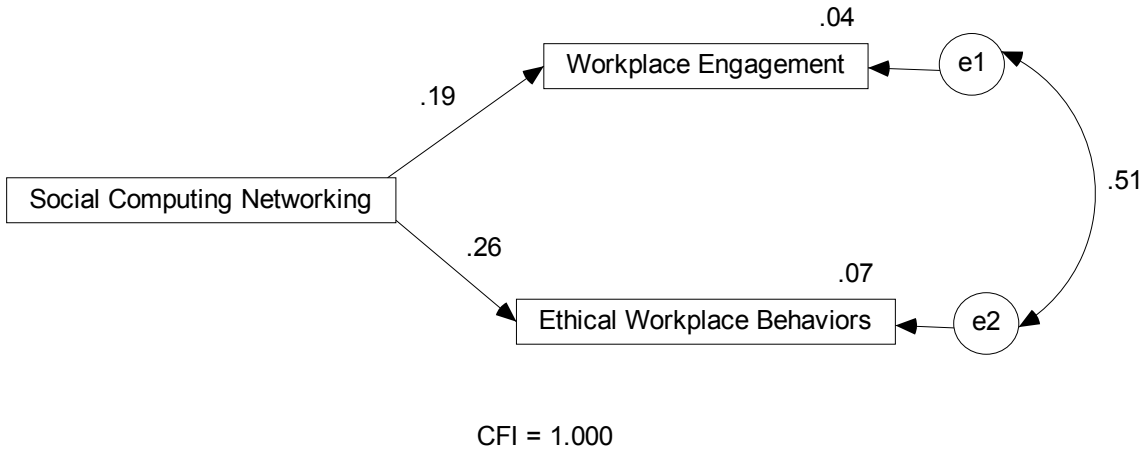

Figure 1. Regression analysis

Hypothesis One

$H1_0$ stated that there will be no relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers. Social computing networking was a significant, positive predictor of workplace engagement, $\beta = .19$, $R2 = .04$, $p = .034$. Social computing networking was a significant, positive predictor of ethical workplace behaviors, $\beta = .26$, $R2 = .07$, $p = .004$. The error term for workplace engagement was significantly, positively correlated with the error term for ethical workplace behaviors, $r = .51$, $p < .001$. Therefore, $H1_0$ is rejected in favor of the alternate hypothesis at the .05 significance level.

Research Question Two

To what extent are SCN and workplace engagement related among project managers? Research questions two and three were investigated with zero-order correlations with the Pearson r. A correlation matrix is presented in Table 5.

Table 5
Correlation Matrix

Variable	1	2	3
1 Social Computing Networking	__		
2 Workplace Engagement	.19*	__	
3 Ethical Workplace Behaviors	.26**	.54**	__

Note. *$p < .05$, (1-tailed). **$p < .01$, (1-tailed); N = 116.

There was a significant, positive relationship between social computing networking and workplace engagement, $r(114) = .19$, $p = .018$, one-tailed. As social computing networking increased, there was a corresponding increase in workplace engagement.

Hypothesis Two

$H2_0$ stated that there will be no relationship between use of SCN and workplace engagement of project managers. There was a significant, positive relationship between social computing networking and workplace engagement, $r(114) = .19$, $p = .018$, one-tailed. Therefore, $H2_0$ is rejected in favor of the alternate hypothesis at the .05 significance level.

Research Question Three

To what extent are SCN and ethical workplace behaviors related among project managers? There was a significant, positive, relationship between social computing networking and ethical workplace behaviors, $r(114) = .26$, $p = .003$, one-tailed. As social computing networking increased, there was a corresponding increase in ethical workplace behaviors.

Hypothesis Three

$H3_0$ stated that there will be no relationship between use of SCN and ethical workplace behaviors of project managers. There was a significant, positive, relationship between social computing networking and ethical workplace behaviors, $r(114) = .26$, $p = .003$, one-tailed. Therefore, $H3_0$ is rejected in favor of the alternate hypothesis at the .05 significance level.

Conclusions

There was a significant, positive relationship between social computing networking and workplace engagement. There was a significant, positive, relationship between social computing networking and ethical workplace behaviors. A summary of the hypotheses and outcomes are presented in Table 6 that follows:

Table 6

Summary of Hypotheses and Outcomes

Hypotheses	Significance	Outcome
$H1_A$: There will be at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers.	P-values ranged from .004 to .034.	Supported
$H2_A$: There will be a positive relationship between use of SCN and workplace engagement of project managers.	p = .018	Supported
$H3_A$: There will be a positive relationship between use of SCN and ethical workplace behaviors of project managers.	p = .003	Supported

As shown in Table 6, the alternative hypotheses statements for H1-3 were supported. All p-values were computed as less than 0.05 and justified rejection of the null hypothesis. Implications of these findings will be discussed in chapter five.

CHAPTER 5: DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

The purpose of this quantitative, nonexperimental, survey research was to examine the extent of the relationship between SCN (IV) and the factors of workplace engagement (DV) and ethical workplace behaviors (DV) as it relates to project managers from public sector organizations. This study contributed valuable knowledge to the social science community and to those whose job practices and services address the organization's human resources affairs. Those which would particularly benefit are organizations that have yet to institute social computing network policies. The study focused on the extent to which project managers employed within the public sector of the southeastern region of the United States were influenced by factors such as workplace engagement and ethical behavior when using social computing networking. The study data were examined using multiple regression analysis to test, analyze, and predict the relational effect on the study's research variables.

Chapter 1 presented a general overview of the study with a brief discussion of relevant literature. Chapter 2 focused on the review of current journal articles and recent publications on the topic of social computing networking, workplace engagement, and ethical workplace behaviors of project managers. Chapter 3 addressed the research methodology and placed an emphasis on the research questions and hypotheses as well as research design in the study. Chapter 4 was a presentation of the data analysis and study results. Chapter 5 provides the summary of the overall research study, the findings, conclusions, implications, limitations, and recommendations for further research.

Summary of Results

The first research question assessed the extent to which SCN affects workplace engagement and ethical workplace behaviors of project managers. Three hypotheses were tested and supported, resulting in a positive relationship between the constructs. The first hypothesis (H1) stated that there would be at least one relationship among SCN, workplace engagement, and ethical behaviors of project managers. The demographics analysis showed that approximately one-third (33.6%, *n* = 39) of respondents indicated that a small number of employees had access to organizational social media; 43.1% (*n* = 50) replied that all employees had access; and 17.2% (*n* = 20) indicated that some employees, but not all, had access. The majority of participants accessed social media through PC desktops; 65.5% (*n* = 76) accessed it through smartphones; and 63.8% (*n* = 74) accessed social media sites through laptops. Approximately one-third (33.6%, *n* = 39) of participants had 0-5 years of experience as project managers, 22.4% (*n* = 26) had 5-10 years, and 19.8% (*n* = 23) had 10-15 years. One hundred sixteen project managers completed the survey; 55.2% (*n* = 64) were males and 44.8% (*n* = 52) were females. Regarding occupational titles, 42.2% (*n* = 49) were project managers, 19% (*n* = 22) were program managers, and 18.1% (*n* = 21) were employees.

The second and third hypotheses showed a positive relationship between use of SCN and workplace engagement and ethical behavior of project managers. The results demonstrated that 4% and 7% of the variance in workforce engagement and ethical behaviors can explain the use of SCN for project managers (= .19, R2 = .04, p = .034) and (β = .26, R2 = .07, p = .004) respectively. Implications of these results are discussed in the following section of this chapter.

Discussion of the Results

The purpose of this quantitative, non-experimental, survey research was to examine the extent of the relationship between SCN and the factors of workplace engagement, and ethical behaviors as it related to project managers from public sector organizations. The first research question of this study asked to what extent is there a relationship among SCN, workplace engagement, and ethical workplace behaviors of project managers when tested simultaneously. Simply stated, project managers were asked just how extensive was their SCN as it related to their workplace engagement and ethical behaviors. The $H1_0$ stated there will be no relationships among SCN, workplace engagement, and ethical workplace behaviors of project managers. The results showed that the null hypothesis was rejected in favor of the alternate hypothesis.

The literature reviewed focused primarily on associations between constructs that might contribute to making ethical business decisions. However, no studies to date had actually addressed business ethical decisions of project managers as it related to all three constructs in this study. For example, O'Fallon and Butterfield (2012) found that business decisions commonly involved work related ethical dilemmas and work related ethical judgments. Similarly, Schaufeli and Bakker (2004) found that employees of the same job function who were interested in their work were motivated by one another, inspired positive emotions, felt engaged and were committed to the job. Lindgreen and Swaen (2010) indicated that ethical behavior in the workplace when using SCN can influence workplace engagement. This type of behavior can lead to a greater commitment and desire to work towards achieving a common project goal within the workplace to meet time, budget, and performance constraints.

Within project management, many teams interact with each other and their stakeholders on the basis of their teams' shared goals and objectives, social identities, and the identities that drive the teams' cohesion, mobilization, and action with respect to successfully completing a project (Crane & Ruebottom, 2011). In general, project management practices bring many benefits (Mustaro & Rossi, 2013).This evidence suggested that workplace engagement and ethical behavior are important to the success of project managers in the public sector. When organizations invest in strong relationships with their members, both parties are more likely to work towards the achievement of common goals (Lindgreen & Swaen, 2010).

Research question two examined the extent to which SCN and workplace engagement related among project managers. The findings suggested that a project manager's experience when using SCN influences workplace engagement. The study results indicated a positive correlation between project managers using SCN and workplace engagement. The study results also indicated that as the use of SCN increased, workplace engagement increased.

These findings were confirmed in previous studies. Miller-Merrell (2012) reported that more than 81% of employees work using their personal mobile device and social-networking sites, such as Twitter and FaceBook. From a technology perspective, e-mail was the preferred method of internal communication since the adoption of computers. A challenge presented by the literature was the lack of a clear and universal definition for *workplace engagement*, often referred to in the literature as *employee engagement*. For the purpose of this study, workplace engagement was defined as an individual's positive, fulfilling work-related state of mind characterized by vigor,

dedication, and absorption (Seppälä et al., 2009). Nevertheless, the findings did reveal there was a significant, positive relationship between social computing networking and workplace engagement. As social computing networking increased, there was a corresponding increase in workplace engagement.

The average American worker spends between 21% and 26% of his or her paid time engaged in personal activities online, which is evidence of less workplace engagement and unproductivity (Frauenheim, 2009). In the present study, the amount of time that participants spent in social networking was not determined, however, consistent with previous studies, SCN tends to contribute to decreased workplace engagement and unethical employee behaviors (Ferreira & du Plessis, 2009; Lin & Lu, 2011; North, 2010). More research is needed to determine the impact of SCN on project managerial engagement.

Social technologies connect project management teams in ways that facilitate information (Evans, 2010). This finding supported Esfahani and Malek (2010), who stated that SCN is a new paradigm for automatically composing pervasive software systems that draw heavily on the knowledge provided by social networks. Cook (2008) further explained that engaged employees feel inspired by their work, they are customer focused in their approach, and they care about the future of the company and are prepared to invest their own effort to see that the organization succeeds. Research shows that engaged employees are also productive employees. According to Gallup Poll (2008), 50% of workers are not engaged in the workplace and 20% of those are actively disengaged.

In a study conducted by Fong and Ng (2012), female workers appeared to have higher levels of engagement than their male counterparts. The comparison amongst the age group was also consistent with older workers reporting higher levels of engagement (Fong & Ng, 2012). In the present study, results showed that 55.2 % of the participants were female project managers and 44.8 % male. Although, age, gender, and experience demographics data were collected on the survey, the present study did not consider these factors in determining the outcome. Therefore, whether these factors are consistent with previous research is inconclusive.

Researchers have consistently demonstrated that social computing networks are important foundations for virtual communities, computer supported collaborative work to support project management communication in the workplace (Fong & Ng, 2012; North, 2010). Ensuring project managers and stakeholders are on the same page is vital for supporting intergroup relations. Social computing networking is becoming a useful tool in the project management arena. Project teams share information on progress reports, financials, staffing, scheduling and metrics to multiple members across many geographical regions (Gallup Poll, 2008). It creates a platform for teams to share information about project risks and mitigation plans, project issues and resolution paths and completion of tasks.

The third research question examined the extent of the relationship between SCN and ethical workplace behaviors among project managers. The results revealed a positive relationship between SCN and ethical workplace behaviors amongst project managers in the public sector. As SCN increased, there was an increase in ethical workplace behavior. The suggestion was that ethical workplace behavior might be a key component in the

project success within an organization. Huhtala, Feldt, Lämsä, Mauno, and Kinnunen (2011) conducted a study with 902 managers from multiple backgrounds in a variety of organizations between the ages of 25-68 years old. The findings showed that ethicality is an important tool for many organizations and has become an important assets through the use of ethical codes of conduct, principles, values and declarations (Huhtala et al, 2011) In addition, ethicality has a direct impact on organizational effectiveness, leading to benefits to the workforce and organization as a whole (Huhtala et al, 2011).

Over 22 % of the project manager participants have 0-5 years of experience. This could indicate that practicing ethical behavior, abiding by an organization's rules of conduct and working with others who share the same level of ethical behavior within the past five years helps to promote values of responsibility for the project, respect for others on the team and within the organization, fairness and honesty to support effective project management.

The ethical dimensions of project management involve discussions and debating project activities in an ethical fashion. In addition, the use of SCN with the proper protocols, security mechanisms and sharing information in an ethical manner is a valuable method for practicing project managers. The foundation of a good project manager's ability involves creativity, logical thinking and ethical awareness (Helgadóttir, 2008).

Misconduct in the U.S. workplace has reached historic lows and more employees are becoming whistleblowers on workplace wrongdoing (NBES, 2011). According to the results, 43 % of participants indicated that employees had access to social networks, however, that does not indicate whether or not social media applications were used for

wrongdoing. Creating a culture based on integrity and a code of ethics can support ethical leadership in project teams. Social computing networks can be used to support electronic ethical behavior (E-ethical). The use of classified and sensitive material, unethical codes of behavior and office politics in project work can derail ethical project management. Electronic information and collaboration amongst teams in the traditional environment using electronic communication tools and social media should be treated under the same ethical guidelines. Multiple dimensions of ethical culture have to be taken into account to reduce unethical behavior (Kaptein, 2011).

Hypothesis 3 (H3) indicated that there will be a positive relationship between use of SCN and ethical workplace behaviors of project managers. Ethical workplace behavior was defined as the moral right and wrong arising in the context of business practice (Drover, Franczak, & Beltramini, 2012). The findings supported the claim by Huhtala, Feldt, Lämsä, Mauno, and Kinnunen (2011) that indicated a positive relationship between SCN and ethical workplace behavior. According to Huhtala et al., ethical behavior is associated with the principles of right and wrong in an organizational context. The results indicated that as social computing networking increased, there was a corresponding increase in ethical workplace behaviors.

Technology such as SCN is rapidly changing the dynamics in an organization and team environment. The needs of project managers working across virtual and standing teams generate new challenges in the process. One of the most complex aspects of project management is communication. The ethical behavior facing a project manager in the public sector today is essential given the complexities of scope, budget, stakeholder engagement, and schedule constraints (Allen, 2011). Huhtala et al. (2011) further stated

that if an organization encouraged and expected ethical decision-making, employees were more likely to make ethical choices. This sentiment is also aligned with the Ethics Resource Center (2011) that postulates that employees who do not follow the norm run the risk of reducing morale and impacting the productivity of an organization. However, Clarke (2011) found that the need for an ethical environment using professional codes of conduct, ethical principles, and best practices have been made but fell short of an organization's objectives. In addition, Boatright (2013) believed that creating a culture based on integrity, honesty, and truth requires a well-articulated and supported code of conduct that tells an employee how to act in which goals and objectives are achieved.

Through the use of SCN, project managers in the public sector can use traditional and online communication channels to support their management efforts for ensuring that ethical behavior is executed in the workplace using acceptable standards with high integrity. In the social identity model, the use of SCN triggers behaviors consistent with the group prototype (O'Fallon & Butterfield, 2012). Social identities of a group are cognitively represented as a prescription of beliefs, attitudes, feelings, and behaviors that optimize a balance between minimization of ingroup differences and maximization of intergroup differences (Terry, Hogg, & White, 1999). It is on this basis that the present research designed for project managers in the public sector would identify strongly with influencing workforce engagement and ethical behavior when using SCN.

In the present study, the use of Internet-based communication technologies and networking tools facilitated the development of social groups and social identification. Social identity was a key element in understanding how participants formed intergroup relations through social networking (Tajfel, 1981). The social identity theory suggested

that a person's knowledge belongs to a social category or group (Stets & Burke, 2000, p. 225). The theory also assumed that people form unique personal identities as individuals and develop a social identity based on the groups to which they belong. The key premise is that as social groups exist at multiple levels, social identity development is facilitated through communication within and amongst these levels.

Implications of Results

The project management field has exploded in recent years in terms of establishing professional workplace standards (Oren, 2011; Project Management Institute, 2013). This study provided researcher an opportunity to add to the body of knowledge in Project Management field. The central focus of this study was to understand the workplace behaviors of project managers relevant to social computing networking, workplace engagement, and ethical behaviors. The literature clearly indicated that unethical behavior in organizations is costing taxpayers millions of dollars every year.

As a project management professional, the researcher believes it is the responsibility of the project manager not only to uphold high standards of ethical behavior at work place, but also to foster an environment of high ethics in the organizations for which people work. Although it is true that SCN is one of the most popular types of communication, project management organizations need to be cognizant of both the dangers and benefits that go along with this new technology. With this in mind, the results of this study have extensive implications for project management.

The findings from this study also revealed a key implication for business practice of project managers with regard to increasing the level of ethics. The most important

strategy for enhancing ethics in business organizations entails exemplary ethical conduct of top management (Project Management Institute, 2013). This study revealed the important function of project management as a strong determinant of employees' ethical thinking and behavior, more importantly, the results indicated that the ethical behavior of project managers is positively associated with social networking in the organizational context. For this reason, there should be ethical policy and practice implications for organizations. Increased employee use of technology is resulting in greater rates of employee misuse and discipline for such misuse. Most employers have drafted workplace policies to address employees' use of social media and their potential misuse of employers' systems. Generally, these policies do not encompass all the applicable aspects and safeguards necessary to create clear, enforceable rules or to ensure that employees comply with the provisions (Cilliers, 2013).

A major challenge for organizations is understanding how to strike the right balance of workplace engagement and ethical workplace behaviors while social computing networking in any organization, and most importantly, the public sector organization. Employee engagement drives the organizational bottom-line results (Macey & Schneider, 2008). The key premise is that a direct correlation exists between employee engagement, profitability, high productivity, customer satisfaction, and employee retention.

Project management in the public sector is nothing new; however, the advent of social media has changed the dynamics while trying to address resource constraints of all the associated issues that make for successful project management implementation. Many companies have now incorporated social media into their project management

information systems. Management and consultants alike can use the results of this study to help their organization succeed on any project by using social computing networking tools to support project management. Because communication plays a very important role in project management, and with the advent of social networking computing, project team members can now be geographically located and still achieve a solid result.

From the results, as social computing networking increased, there was a corresponding increase in workplace engagement. Workplace engagement concerns the passion and commitment an employee is willing to invest to help achieve the employer's objectives. While each of these areas is significant on its own, combining them enhances the organizational need to understand employee's needs and how to satisfy those needs while balancing the overall welfare of the organization. The researcher believed that this study should increase awareness of the importance of ethics in organizations in general, particularly in project management. Also, the researcher hopes this study should stimulate some useful discussions on the topic. Other professionals as well as public sector organizations and individuals can share their views and experiences on this issue of concern to the general public.

Another key theoretical implication for improving the ethical actions of project managers is the development of a system of rewards and punishments (Bandura, 1977; Treviño & Nelson, 2004). Such system plays an important role in social influence processes. Bandura (1977) argued a person behaves in accordance with the negative or positive consequences that attach to his or her behaviors. A system of rewards and punishments would encourage the avoidance of behaviors linked to negative consequences and encourage actions that lead to positive consequences. Therefore,

sanctioning unethical behaviors should encourage ethical behaviors among employees in their social networking. Additionally, Bandura (1977) claimed this system fulfils an informative, motivating, and reinforcing function in the business organization. Pearce (2013) agreed that all individuals are influenced to some degree by social identity and that they develop unique personal identities based on the groups to which they belong.

Limitations

There were several limitations in the study. The first limitation was combining three validated survey instruments into one research tool. The collaboration of the tools had not been used in previous studies as a combined instrument, but used as separate measures for workplace engagement and ethical behavior. Combining the tools can often lead to gaining less insight and a deeper understanding of the sample population when assessing multiple variables. Another limitation in the study was the use of an online survey to capture the opinions of project managers who work in the public sector. Participating in online surveys can sometimes be done in an uncontrolled environment where project managers are often busy multitasking to execute projects. There is no way to guarantee full participation or honest responses using this medium. Furthermore, accessing SCN applications in the workplace can be an issue when workplace policy and guidelines prohibit employees from using them for purposes other than supporting their projects. A final limitation of the study was the sample population of project managers in the public sector. Project management has spread in the past several years from its traditional fields of construction, healthcare, and engineering into education, information technology, media and telecommunication (Hodgson, 2002). A study that examines

project managers in other categories may be beneficial to the research of SCN and its relationship to workplace engagement and ethical behavior.

Recommendations for Future Research

In any project endeavor, the project manager focuses on creating participation in projects. With the rise of the Internet and advances in workplace technology, there are important implications for future research. Business ethics and corporate social responsibility are linked with SCN (McManus, 2009; Michaelson, 2010). For future research, a qualitative approach should be launched to gain a more personal perspective of project manager's views of their use of SCN in the workplace and the impact that it has on employee engagement. It is important to understand their communication practices, trust development, and the effects that social media have on them as they execute projects (Pinto, Slevin, & English, 2009).

Job practices and ethical conduct are usually directed within the realm of the Human Resources (HR) division of the organization, especially for organizations that have yet to institute social computing network policies (Tonus & Oruç, 2012). Since HR plays a major role in promoting and influencing ethical practices among its employees, research aimed at developing a thorough analysis of HR role in promoting ethics and corporate training relevant to SCN is recommended. To date, little has been done to investigate the role that HR plays, especially in relation to the influential power of HR practices on promoting ethics for project management employees.

The results of this study also confirmed that SCN affects workplace engagement of project managers. Corporate social networking sites provide both employees and employers with considerable opportunity to share information and become friends

(Kaupins & Park, 2011). Despite the importance of ethical practices and workplace engagement as evidenced by the extensive literature search, a meta-analysis research study would be beneficial to compile ongoing published studies on SCN as it relates to policies and practices of project managers. The aim is to keep abreast of the general trends in SCN found in the literature. This type of research would not only avail the researcher of current emerging research into SCN, but also provide researcher valuable information relevant to other useful research designs that can be applied for future research.

Conclusions

The purpose of this quantitative, nonexperimental, survey research was to examine the extent of the relationship between SCN and the factors of workplace engagement, and ethical behaviors as it related to project managers from public sector organizations. This study laid the groundwork for the development of a model that can guide researchers and project managers in understanding the relationships between social computing networking, workplace engagement, and ethical practices of project management. This study added some new insight into the existing body of literature because no other research was found that investigated a relationship between SCN, WPE, and EWB of project managers. Each hypothesis (H1-H3) was supported.

Social computing networking links people, organizations, and knowledge through the intersection of a social identity using computer applications. As social networking becomes integral to various organizations and industries, project managers may find themselves in situations where ethical issues never previously arose. Therefore, project managers must consider the consequences of unethical choices and behavior,

including their far-reaching impact on the project management community, the global business community, and society.

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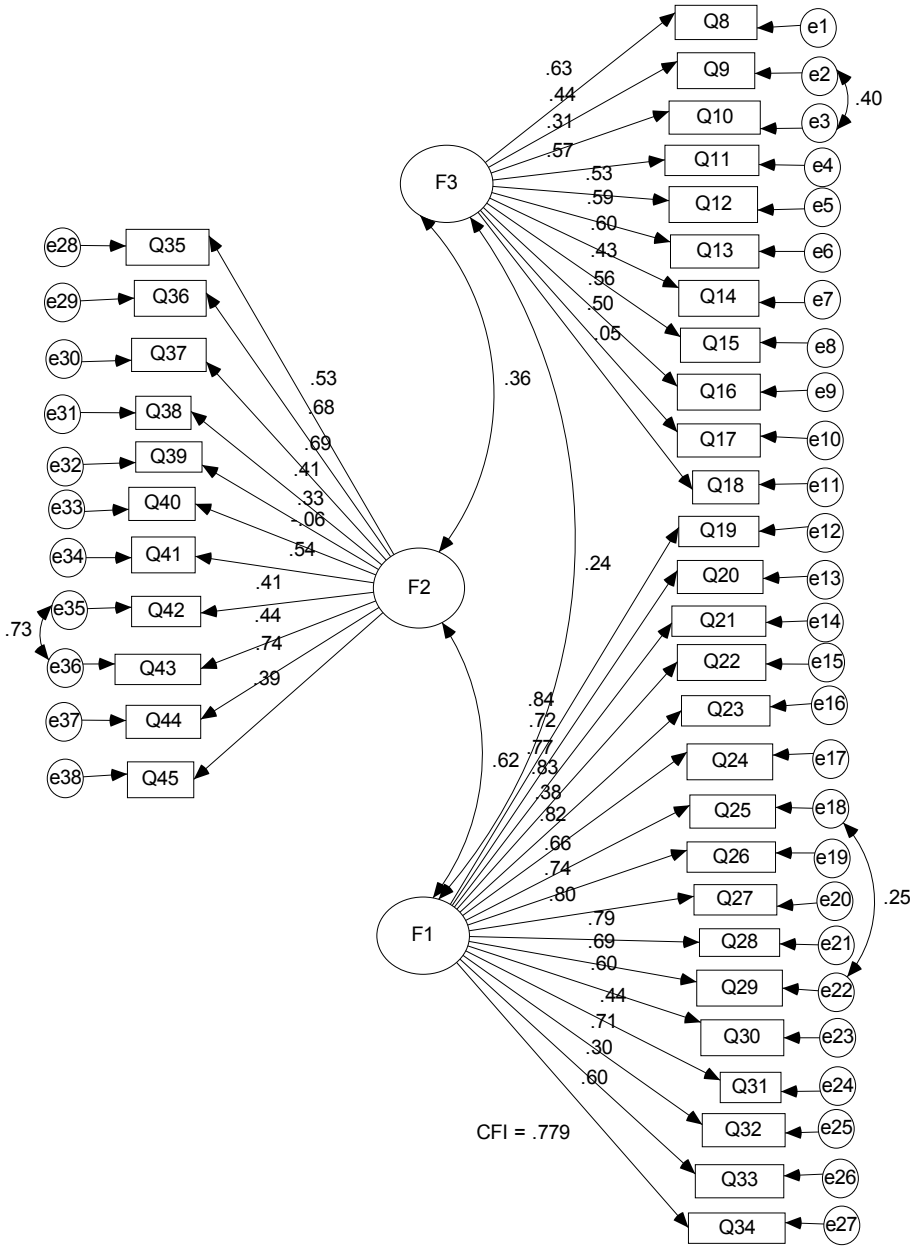
APPENDIX A. FACTORS FOR WEIGHTS

			Estimate	S.E.	C.R.	*P*
Q8	<---	F3	1.000			
Q9	<---	F3	.780	.198	3.949	***
Q10	<---	F3	.507	.180	2.820	.005
Q11	<---	F3	.897	.184	4.865	***
Q12	<---	F3	.965	.210	4.594	***
Q13	<---	F3	1.023	.203	5.033	***
Q14	<---	F3	1.030	.204	5.058	***
Q15	<---	F3	.774	.199	3.883	***
Q16	<---	F3	.962	.200	4.804	***
Q17	<---	F3	.864	.197	4.393	***
Q18	<---	F3	.087	.179	.484	.628
Q35	<---	F2	1.000			
Q36	<---	F2	1.904	.381	4.999	***
Q37	<---	F2	1.681	.334	5.035	***
Q38	<---	F2	.679	.190	3.568	***
Q39	<---	F2	.688	.231	2.984	.003
Q40	<---	F2	-.115	.206	-.560	.576
Q41	<---	F2	1.224	.282	4.339	***
Q42	<---	F2	.916	.260	3.525	***
Q43	<---	F2	1.014	.272	3.732	***
Q44	<---	F2	1.760	.338	5.213	***
Q45	<---	F2	.598	.176	3.396	***
Q19	<---	F1	1.000			
Q20	<---	F1	.806	.090	8.980	***
Q21	<---	F1	.864	.087	9.895	***
Q22	<---	F1	.951	.085	11.156	***
Q23	<---	F1	.390	.093	4.192	***
Q24	<---	F1	.995	.090	11.036	***
Q25	<---	F1	.755	.094	8.009	***
Q26	<---	F1	.881	.094	9.397	***
Q27	<---	F1	.976	.092	10.579	***
Q28	<---	F1	.844	.082	10.348	***
Q29	<---	F1	.759	.089	8.475	***
Q30	<---	F1	.651	.093	6.983	***
Q31	<---	F1	.413	.086	4.818	***
Q32	<---	F1	.768	.087	8.838	***
Q33	<---	F1	.278	.088	3.164	.002
Q34	<---	F1	.690	.098	7.046	***

Note. ***$p < .001$.

APPENDIX B. CONFIRMATORY FACTOR ANALYSIS



Note. F1 = Workplace Engagement, F2 = Ethical Workplace Behaviors, F3 = Social Computing Networking.