AN EXPLORATORY EXAMINATION OF SOCIAL MEDIA, INFORMAL LEARNING, AND COMMUNITIES OF PRACTICE IN THE WORKPLACE

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by

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ABSTRACT

In organizations of any size, communication, collaboration and informal learning among employees can be critical contributors to meeting goals and succeeding in the marketplace (Mason & Lefrere, 2003). When done well, over time these groups of employees form loose bonds and evolve into communities of practice that promote shared learning and increased understanding among the membership. Unfortunately, achieving this state can be a challenge for many organizations. Differing communication styles and practices, isolated business functions, and even geographic disbursement can lead to a disconnected workplace, and have an impact on the organizational members’ ability to all work toward the same goal, with the same information at their disposal. Innovations in communication over time have contributed to increased employee engagement, and with the advent of Web 2.0 technologies, there are even more tools that allow for the exchange of ideas and knowledge sharing between co-workers in organizations.

This research examined how Web 2.0 technologies, specifically social networking sites, are used in an organizational setting to contribute to workplace learning and build engagement and community among employees. Due to the size of the sample, statistically significant inferences were not able to be made. However, there was a pattern of evidence that indicated that social networking sites were contributing factors in informal learning within an organization, and that they were useful in building networks and engagement among employees, especially those with whom the respondents did not work directly or in close proximity, which illustrate evidence of the
existence of a community of practice. Several examples of learning were identified through the open-ended questions included in a survey, through one-on-one interviews, and through analysis of posts made on social media.

While several criteria were met, it does not appear that the use of social networking sites fulfills all of the requirements of the definition of a community of practice for this particular audience. Still, it is clear that the use of these tools contributes to greater communication and community in the workplace. Additional study in the field would be beneficial using different audiences in order to ascertain any applicability to a broader spectrum.
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Chapter 1

Introduction

In organizations of any size, communication, collaboration and informal learning among employees can be critical contributors to meeting goals and succeeding in the marketplace (Mason & Lefrere, 2003). When done well, over time these groups of employees form loose bonds and evolve into communities of practice that promote shared learning and increased understanding among the membership. Unfortunately, achieving this state can be a challenge for many organizations. Differing communication styles and practices, isolated business functions, and even geographic disbursement can lead to a disconnected workplace, and have an impact on the organizational members’ ability to all work toward the same goal, with the same information at their disposal. Innovations in communication over time have contributed to increased employee engagement, and with the advent of Web 2.0 technologies, there are even more tools that allow for the exchange of ideas and knowledge sharing between co-workers in organizations.

The intent of this research is not to provide a historical review of the issues of discourse in the workplace, but instead to focus on the use of Web 2.0 tools by employees in organizations as a means of communication, collaboration and informal learning within organizations, and to explore if this use can result in the development of communities of practice.

A community of practice is a sort of interest group; that is, a collection of individuals who share an interest or a profession. It is formally defined (Wenger,
1998) as “a group of individuals who share an interest in a domain of human endeavor and engage in a process of collective learning that creates bonds between them.” The group develops through sharing of information and experiences, and as a result, the individual participants learn from one another and may develop and enhance their professional skills as an outcome of engaging in the community. This concept, defined by Jean Lave and Etienne Wenger, (Lave & Wenger, 1991), evolved from the term they developed called situated learning, which was used to describe how people new to an environment eventually become engaged members of a group. In the absence of the proverbial “water cooler,” around which employees of days gone by would gather to informally discuss topics of interest, social networking sites provide the opportunity for employees of organizations to accomplish the same goal.

Therefore, the aim of this research is to gain an understanding of the impact of the use of these tools has on the development of communities of practice in the workplace, and explore the concept that if Web 2.0 tools such as social networks are used properly, the opportunity exists for increased collaboration, informal learning and, ultimately, improved performance and cohesion. Through the implementation of a community of practice framework, this study will provide insight into how the use of social networks in the workplace impacts its functionality.

The Problem

Social media and social networking sites allow for the exchange of ideas and useful knowledge in many professional settings, and are really no different than other forms of media and communication at the disposal of those in a workplace. However,
unlike more mainstream communication channels, conflicting points of view exist regarding the utility and appropriateness of the use of social media in the workplace. Some feel that these channels greatly contribute to the building of community, and encourage the behavior; others feel that the use of these tools in the workplace is a distraction and contributes to wasting time and inefficiency (Rosen, 2008). This gets at the root of what this research is intended to do; that is, to help organizations answer the question: Does spending time using these channels contribute to communication, collaboration and informal learning, and building a community of practice in the workplace?

It would seem at first glance that the support for social media as a valuable and meaningful workplace tool is scant. Robert Half Technology recently released findings that indicated that over 50% of the organizations that surveyed indicated that social media had been banned from being used in the workplace (Gaudin, 2009). This result would seem to suggest that these tools have little to no utility in the workplace. However, there is support for other points of view. In fact, a study conducted by the University of Melbourne (Fahmy, 2009) showed that people who used the Internet for personal reasons at work are more productive than those who do not.

Workplace dynamics are changing. With more generations working together than ever before (Salopek, 2000), a variety of communication styles are in play in every organization. While some individuals are more comfortable communicating in a traditional face-to-face format, and others are more apt to pick up the phone to talk, there is a whole new generation in the workplace whose members are much more comfortable communicating via e-mail, texting or other Web 2.0 tools such as
Facebook, Twitter or LinkedIn. With nearly half of the U.S. workforce projected to be in the Millennial generation by 2020, organizations need to understand how this generation likes to communicate, and perhaps more importantly, how they like to gain knowledge, and how they use technology to do so (Lauby, 2012), since, in addition to their utility as communication tools, these innovations are rapidly revolutionizing the way that organizations learn (Aldrich, 2006).

At the same time, there is a real concern that these tools are negatively impacting worker productivity. Because the tools have personal as well as professional utility, it is not difficult to see how employees who use these tools to communicate with their colleagues on work-related matters would also take the time during the workday to engage in personal communications as well, perhaps at the expense of their output for the day.

It is the purpose of this study to determine how three specific social networking sites, Facebook, LinkedIn and Twitter, are being used in the workplace in order to help organizations understand how the use of these tools can contribute to the development of functional communities of practice that can provide an outlet for communication, sharing of knowledge and informal learning.

**Significance of the Study**

There are a number of reasons that the study of the phenomenon of social media tools in the workplace is worthwhile. A recent study indicated that organizations were collectively losing billions of dollars through productivity lost to social media tools such as Facebook (O’Brien, 2007). Information technology functions in organizations
often are not supportive of the use of these tools due to the potential for security breaches that may occur as a result. Corporate communicators may feel uneasy about the freedom with which any employee can seemingly represent their organization just through a simple post on a blog or a status update on Facebook (Mainville, 2012).

Taken at face value, this would lead to the conclusion that there is no utility for social networking sites in the workplace.

However, other research shows that the use of these tools promotes the building of networks and relationships among disparate groups, and taking breaks to use these tools during the workday—or “workplace internet leisure browsing” is even being touted as increasing employee productivity (Fahmi, 2009).

Many organizations struggle with how best to utilize and monitor the use of these tools by their employees. Some create policies for their use just as they would for other technology that their organizations employ. One telecommunications company has gone so far as to create a “social media training program” for its employees to educate them on the firm’s criteria for responsible use of this media (Stafford, 2009).

Organizations should know how best to leverage these tools in order to harness their abilities to build and maintain networks, communicate more effectively, collaborate across functions, and act as a channel for both formal and informal learning and development within the workplace.

In addition, there is at present a dearth of human resource development research on this topic. Githens et al. (2008) found in a study of over 1600 papers in five scholarly journals related to human resource development that less than 10% of the
research presented was related to technology. Of the technology-related articles, 61% were focused on educational technology and its relation to formal learning.

Technology’s impact, specifically the use of social media and social networking sites, on informal learning and the development of communities of practice in the workplace does not yet have significant study behind it.

This study will contribute to workplace learning and performance research on the topics of communities of practice, informal learning, and social networking sites. It will aim to illustrate how the use of these channels creates connectedness among the participants, which then creates the opportunity for members to learn from one another.

**Research Questions**

This study addresses the following research questions:

1) To what extent does the use of social networking sites in the workplace foster informal learning?

2) To what extent does the use of social networking sites in the workplace create a community of practice?

3) What learning do members of these social networks experience through their participation in them?

**Limitations**

One limitation of this study is the relative short tenure of the use of these tools in the workplace. Facebook has only been in existence since 2004, for example
(Foregger, 2008, p. 3), but its use as a tool for communication in the workplace is even more recent. Other social media tools can be described in a similar way. As a result, a significant amount of scholarly research has yet to be conducted on this topic in terms of its application in the development of communities of practice.

The audience that will be analyzed during the course of this study consists of employed journalists in the newsrooms of major national newspapers. As this research is only examining just one type of organization in a particular point in time with a particular group of employees, the results are not generalizable to a larger audience. Use of these tools may be different, for example, in non-profits or government institutions.

Also, this study is only looking at its use in the United States. These tools all have international audiences, and they may be used in different ways in different cultures.

**Definition of Terms**

**Communities of Practice.** Communities of practice (Wenger, 1998) are defined as “a group of individuals who share an interest in a domain of human endeavor and engage in a process of collective learning that creates bonds between them.” Wenger describes that a community of practice is built on three platforms: domain, community and practice. Domain focuses on the membership and competence in an area of shared interest. Community is formed as members engage in discussions, share information and help each other. The practice refers to the shared resources, tools and methods that members of the
community develop and put into action. A community of practice is described as having the following characteristics: long-lived, focused on an interest which stays constant, large, self-managed, independent membership, with the potential for sub-groups.

The group can be geographically dispersed and may never even physically meet one another. However, through the informal sharing of information with one another, in this case via social networking sites, the members of the practice learn from one another informally, and can develop professionally as a result through the formation of a “virtual” community of practice. A community of practice is an effective mechanism to capture and transfer tacit knowledge by letting people from different departments in a company, or different organizations altogether, discuss common topics of interest. Many companies report that such communities help reduce problems due to lack of communication, and create efficiency (Mestad et al. 2008).

**Facebook.** Facebook was founded in 2004 by Mark Zuckerman when he was an undergraduate student at Harvard University (Foregger, 2008). It was designed as a complement for the paper-based student directory that was distributed so that students and faculty could get to know each other better and put faces with names. Facebook allows the user to set up a profile, outlining interests, personal history, even photos and other data that is of interest. He or she then “friends” others on Facebook with whom there is a connection. Perhaps there is an existing personal or professional relationship, or was one in the past, for example. This “friending” allows the user access to his network’s
profile, and by writing posts on one’s own and others’ profiles, the relationship is maintained and strengthened.

**Informal Learning.** There is not a singularly agreed upon definition of informal learning in the workplace. Components generally include self-directed learning in organizations, networking, coaching, mentoring and performance planning (Marsick & Watkins, 2001). Though it may seem logical to assume the contrary, informal learning is not the opposite of formal learning. In fact, with informal learning the boundaries of learning are very blurred (Mason & Rennie, 2007). Informal learning indicates increased flexibility in terms of how learning is delivered and from whom. It also captures the “cultural knowledge” that is absorbed through social activities, and, as it is unstructured, is often unrecognized as learning in spite of its influence on behavior (Eraut, 2004).

**LinkedIn.** Much like Facebook, LinkedIn is a site that was developed as a means of connecting people with similar interests together. The distinction for LinkedIn is that it is aimed at a professional audience, a sort of Facebook for working adults. To participate, the user creates a profile, but unlike Facebook which allows the user to indicate favorite movies, foods and load family photos, LinkedIn profiles are all focused on business-related activity, such as education, work experience, membership in professional associations, and the like. In fact, it almost functions as an online resume (Skeels & Grudin, 2009).

**Social networking sites.** Social networking sites are tools that are used by individuals to connect via the Internet to not only share their own ideas and thoughts but also to comment on those of others as well (boyd & Ellison, 2007).
**Twitter.** The original use of Twitter was meant to be a tool for the purpose of “microblogging,” that is; it allowed its subscribers to answer the question “What are you doing?” in 140 characters, or less. It was initially designed for use mainly via cell phone, as 140 characters is the normal limit of how much text would fit on one screen of the average cell phone at the time Twitter was designed. The premise of Twitter is similar to that of Facebook, except instead of “friending” someone, a Twitter user has “followers.” The user subscribes to the news feeds of those who are of interest, and those updates, or “tweets,” are shown in a chronological stream when the user logs onto Twitter (McFedries, 2007).

**Web 2.0.** This term has been very popular to describe the “new” Internet. Its origin is difficult to ascertain, but it is generally defined as the introduction of interactivity on the Internet. Originally, sharing information on the Web was primarily one-sided; that is, an entity was simply publishing information about itself on a web site. Webs 2.0 allows for users to respond, comment, critique and complain on these sites as well (McAfee, 2006). Blogs, wikis, video-sharing sites like YouTube and social networking sites are all examples of Web 2.0 tools.

**Assumptions**

Because a portion of this study is based on self-reported data, it assumes that respondents are being candid and accurate about their attitudes toward the use of these tools in the workplace. Because of the implication that perhaps time spent on the use
of Web 2.0 tools in the workplace is not productive, respondents in this study may feel that they need to misrepresent their use and support of these tools due to the stigma.

This intentional misrepresentation can be described as a resultant of social desirability bias. People have a need to appear more altruistic and society-oriented than they actually are, and the needs for social desirability influences individuals to deny socially undesirable actions and behaviors and to admit to socially desirable ones. Social desirability bias refers to the tendency of individuals to misrepresent the likelihood they would perform a particular action, depending on how the performance of that action is perceived by the references groups that are important to the respondent (Chung & Monroe, 2007).

For the portion of the study that is not self-reported, there is the risk that the messages being analyzed might have been misinterpreted by the researcher during the coding process. However, steps will be taken to measure rater reliability during the content analysis.

**Theoretical Framework**

As this study focuses on adults who voluntarily participate in online environments for the purposes of their work, a framework has been chosen that is based on the concepts of adult and workplace learning. As such, the theoretical framework of communities of practice seems appropriate. According to Wenger (1998), a community of practice consists of three dimensions: what it is about, as understood by its members; how it functions, including the engagement that binds its members together; and what capability it has produced. This framework is based on
the fact that learning is participatory and social, and it does not assume participants must be face-to-face to learn socially. This makes it particularly applicable for use in this study. It can be difficult to discern the differences between teams and communities of practice. Though they share many similarities, they do have some distinct qualities as well. Like many teams, successful communities of practice have goals, deliverables, assigned leadership, accountability for results, and metrics. They are, however, unique from teams in four ways:

- Communities of practice tend to focus on the long-term development of a body of knowledge or discipline. Teams, in contrast, generally focus on a specific objective, end result or deliverable.
- Like team leaders, leaders in a community of practice establish the direction of the community, connect members, and facilitate discussions, but unlike some team leaders, do not have authority over members.
- In communities of practice, its members frequently solicit input from their peers to aid in solving any complex or difficult technical problems. Communities deliberately seek to expand the internal and external resources and experts available to individuals.
- In team settings, its members generally are not responsible for organizing, archiving or documenting what an organization has learned in a domain; rather, they focus on a given problem. Communities of practice steward the knowledge in their domain with a view toward solving problems that have not yet been discovered (McDermott & Archibald, 2010).
Wenger (1998) posits that there are several defining characteristics of a group that differentiate it as a community of practice. They are:

- Sustained mutual relationships
- Shared ways of engaging in doing things together
- The rapid flow of information and propagation of innovation
- Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
- Very quick setup of a problem to be discussed
- Substantial overlap in participants’ descriptions of who belongs
- Knowing what others know, what they can do, and how they can contribute to an enterprise
- Mutually defining identities
- The ability to assess the appropriateness of actions and products
- Specific tools, representations and other artifacts
- Local lore, shared stories, inside jokes, knowing laughter
- Jargon and shortcuts to communication as well as the ease of producing new ones
- Certain styles recognized as displaying membership
- A shared discourse reflecting a certain perspective on the world.

These criteria, and the use of the communities of practice theoretical framework, will help to guide the research as it aims to understand the use of social media in the workplace in terms of its impact on informal learning and the
development of communities of practice. By gaining an understanding of what the employees are experiencing through the use of these tools, employers can better determine their utility and appropriateness in their workplace.
Chapter 2

Review of Related Literature

Social media and social networking sites are relatively new terms to the modern vernacular. In order to have an understanding of how these tools play a role in the communication tactics and strategies within an organization, it is important to examine them in more detail to learn how they operate, what their chief benefits are, and how they add, or detract, to an organization’s ability to move toward its operational goals.

In addition, the communities of practice theoretical framework that will be employed for this research also needs to be explained in greater detail in order to understand its purpose and the benefits of using this approach. This chapter will then be segmented into two parts: the first will focus on a review of the relevant literature with regard to social media and the social networking sites; and the second will concentrate on the literature review surrounding the use of the communities of practice framework.

Social Media and Social Networking Sites

Social media. The term social media refers to content found on the Internet that is user-driven, as opposed to being produced by a traditional news agency or other professional entity. It is empowering to individuals to be able to interact with others online and share ideas and comment on others’ as well.
It is top of mind for many organizations because there appears to be an acknowledgement that social media has significant value, and yet companies are struggling to determine exactly what that is (Kaplan & Haenlein, 2009).

**Social networking sites.** Social networking sites are defined as web-based services that enable the construction of profiles, connection with others and the opportunity to view and connect with those who are part of those networks as well (boyd & Ellison, 2007). The way this is executed varies across sites. The functionality of LinkedIn, for example, is different than that of Twitter or Facebook, but the ultimate goal of connection and sharing information among the network participants is the same.

Social networking sites have been in existence for a little over a decade, with the first recognized site that met the criteria above being sixdegrees.com, established in 1997. Like Facebook, it aimed to allow users to connect with one another. Without a sustainable business model, however, it failed three years later (boyd & Ellison, 2007). Still, many other sites were launched. Some also failed, others survived, and sites like Facebook, Twitter and LinkedIn are now products of habit for millions of people daily.

The number of users of social networking and other similar sites continues to explode. Facebook, LinkedIn and Twitter combined have over 1.4 billion users worldwide (http://royal.pingdom.com/2013/01116/internet-2012-in-numbers/).
Uses of Social Media and Social Networking Sites in the Workplace

Because information exchange among people is largely a social interaction, and the use of technology to accomplish this interaction is so pervasive, leaders of organizations want to know how technology can aid the information exchange process, what kinds of information are best delivered through which media, and why people use one medium over another (Haythornwaite & Wellman, 1998). Training and development professionals, for example, have demonstrated that new tools including podcasts, mobile learning, social networking, and wikis are becoming popular methods of connecting learners in the workplace to one other and effective methods for delivering content quickly and inexpensively (Salopek, 2008). There are a variety of benefits that employees experience by using Web 2.0 technologies in the workplace. Their interactivity allows for collaboration and communication in a unique and meaningful way. Web allows employees to spread information quickly and efficiently, through the use of blogs, or microblogs such as Twitter. It also helps to foster relationships across units, break down silos and create informal task forces to focus on organizational challenges. Those involved in organization development will be interested to learn that in a study conducted by the American Society of Training and Development (2009), it was found that 77% of respondents stated that a very important reason for adopting Web 2.0 technologies was to improve knowledge sharing. The second most cited reason was to foster learning in the organization. Social networking sites allow for both of those to take place.

Many organizations are taking advantage of these tools to leverage their benefits. For a growing number of companies, the way to help employees keep their
skills up to date is through social learning, due to the fact that it is collaborative, immediate, relevant and presented in the context of an individual’s unique work environment. The heart of social learning is usually a homegrown social computing platform that includes much of the functionality of social networking sites that employees use outside of work, such as Facebook, Twitter and YouTube, if not the tools themselves (Meister, 2010). Citigroup, for example, has created a group on Facebook that only employees with a Citigroup organizational e-mail address can join. Procter & Gamble uses Facebook to share information with their employees regarding company events. McDonald’s is planning their own answer to Facebook, as they uncovered the fact that employees were often looking for internal expertise within the McDonald’s network and had trouble identifying and connecting with those resources (Hoover, 2007).

At Marsh, one of the largest insurance brokers in the world, the phrase “knowledge fracking” has been coined, a term for the way in which their in-house social media network, Marsh University, has provided the channel through which countless nuggets of wisdom and knowledge that until then were contained in various silos around the organization. It hosts more than 350 employee-discussion groups, blogs, videos, and other useful resources to help their employees accomplish their goals. Retiring employees use the site as a means through which they can “download” their knowledge before they leave the organization (McIlvaine, 2012).
Impacts of the Use of Social Networking Sites in the Workplace

The results of a global survey conducted by the consultancy McKinsey & Company indicate that there are tangible, measurable gains that organizations experience when their employees utilize social media and social networking sites. Benefits include reduced costs of communication and travel, decreased time to market for products and services, and improved morale (Bughin, Chui, & Miller, 2009). They also provide opportunities for deepening relationships with entities outside of the firm as well, such as suppliers, business partners and even customers. The respondents indicated they were better able to gain access to knowledge from those outside of their organization, and experienced lower costs of external communication as a result. When asked to quantify the improvement, the responses ranged from a 10-30% increase. The respondents also reported that, on average, they have Web 2.0 interactions with 35% of their customers and 48% of their suppliers, partners and other external agents (Bughin et al., 2009). A representative from Dell indicated that their use of Twitter has results in approximately $500,000 in new revenue (Baker & Green, 2008). A key objective of a social network initiative at Nestle USA Inc. is to break down functional and location-based silos and encourage employees to interact with one another, while providing a venue for those to connect who haven’t already met in person, as it is felt that employees who do this are better workers and more efficient (Wilkins, 2008).

In a study conducted by the American Society for Training and Development (2010), results indicated strong and significant correlations between respondents’ use of social media tools for work-related purposes and the degree to which they contend
that social media tools allow them to get more work done and have an improved output as a result. Some respondents indicated that social media tools help them learn more in less time. 35% stated that they used social media at work to improve knowledge sharing, 26% used it to boost collaboration; 25% used it to provide more informal learning opportunities; 22% used it to build relationships. In what indicates a potentially bright future for the use of social media in the workplace, 80% of those surveyed indicated that use of social media for learning within their organization would increase over the next three years. It seems clear through this and other studies that social networking technologies promote active and engaged learning. Participants create knowledge through social interaction and exploration (Kamel, Boulos, & Wheeler, 2007).

Not surprisingly, larger organizations reported measurable ben fits of the use of social media in the workplace more often than small companies did. This is most likely due to the fact that they have more capacity with which to devote resources to the introduction, use and study of the impact of these tools. One study has shown that the use of social media and other web sites in the workplace makes employees more productive (Fahmy, 2009). The University of Melbourne showed that employees that they studied who used the Internet for personal reasons in the workplace were approximately nine per cent more productive than those who did not. The study indicates that short breaks to use these tools helps to reset the mind and increases concentration. Another study of AT&T employees found that 65% said that social networking made their colleagues and themselves more efficient workers; 46% found that it made them more creative; 38% found it helped them gain knowledge. Research
also shows that those who are super-users of social media may fare even better. An MIT study shows that employees with the largest social networks were 7% more productive than colleagues with fewer Facebook friends or Twitter followers (Winkler, 2009).

Research has also shown that blogs, one form of social networking, have proven to be a useful tool for cross-organizational communication and collaboration. In a study of communication technologies over a one year period in a small U.S. corporation, social networking sites were found to be useful for maintaining external professional networks and creating and strengthening ties with peers. Web 2.0 tools did not replace traditional communication channels, but instead complemented them. As a testament to the use of social networking sites to contribute to the development of communities of practice, this study found that new media expands professional communications beyond the organization, allowing employees to not only learn from one another but from others who may also be participating in the virtual dialogue from other organizations (Turner, Qvarfordt, Biehl, Golovchinsky, & Back, 2010).

In spite of what appear to be significant benefits to their use, it is also evident that there are mixed opinions regarding the utility of these tools in the workplace. A recent study of organizations that blocked social media for their employees found the drivers of these decisions revolved around concerns about increased vulnerability to viruses, loss of productivity and, more often than not, a lack of true understanding of the potential power of social media for businesses (Joyce, 2012).
This positions this research to help continue to explore this important topic. It is the objective of this study to help illustrate how the use of these tools may benefit engagement and learning in the workplace.

A Review of Individual Web 2.0 Tools

As stated in Chapter One, there are a number of different tools that constitute the Web 2.0 landscape. Blogs, wikis, photo- and video-sharing sites like Flickr and YouTube are but a few. For the purposes of this research, the focus will be specifically on social networking sites that foster collaboration and networking, such as Facebook, Twitter and LinkedIn. A more detailed description of each of these follows.

**Facebook.** Facebook is a social networking site that allows its users to connect with one another through the contributions and postings in ‘status updates.’ It started in early 2004 at Harvard University for the exclusive use of their undergraduates but expanded its use to high school students, corporations and individuals beginning in 2005 (boyd & Ellison, 2007). Facebook has exploded over the years, and according to Internet researchers at Royal Pingdom (2013), now boasts over one billion users worldwide. It is translated into 70 languages, and is the number one most popular web site in existence today in terms of page views and unique visitors (Royal Pingdom, 2013).

One of the obstacles with the use of Facebook in the organization is the stigma it carries as a result of is its origins as a tool for the young, for undergraduates. Still, the masses are enrolling and this tool is ubiquitous both inside and outside of the workplace. Facebook representatives indicate that the average user signs onto the site six times a day (Cain, 2008). Research indicates that Facebook is used to strengthen
and maintain existing relationships, rather than build new ones, but that meeting new
people through the tool is not uncommon (boyd & Ellison, 2007). This indicates that
its functionality would be of great use for organizations that aim to increase
collaboration and communication, especially if their employees are geographically
dispersed and do not often have the opportunity to form relationships face-to-face.
One study found that Facebook is being used within organizations as an alternative
platform for e-mail among employees (Boulton, 2009). Another study indicated that
their respondents identified the three main purposes of using Facebook in the
workplace were to connect on a personal level with their fellow employees; to advance
in the company; and to campaign for a project (Skeels & Grudin, 2009).

As an illustration of this, Serena Software, a San Mateo, California-based
business applications company, created an activity called Facebook Fridays. On this
day each week, Serena Software encourages its entire staff to spend an hour during the
workday on Facebook, connecting with colleagues and clients, and promoting the firm
on their profile pages. It is also setting up a companion site that will be for internal
use only that will help them to share company-specific information among each other
(Green, 2007). The goal is to allow for collaboration, as well as promoting the firm to
external audiences, both as a marketing resource and an employee recruitment tool.

IBM has created its own version of Facebook, called Beehive, for their
organization with the philosophy that if their employees were using tools like Facebook
and MySpace to connect with one another, why not provide them with their own
customized solution? Just 18 months after its launch, over 52,000 employees had
enrolled. The creation of this platform has resulted in employees connecting with
colleagues and allowing them to deepen connections with others outside of their close network. Through the creation of profiles, employees learn about one another and determine the existing common ground on which to build a relationship. It is also used to help build support for professional projects. The organization is very pleased with its investment, as it fosters connections that are not otherwise possible through other forms of communication like conference calls, for example (Stambor, 2009).

IBM supports this form of communication because it recognizes that, as the next generation of employees uses social network sites as their dominant means of communication, if one is not provided by an organization, employees will use external channels, such as Facebook, to achieve the same outcome while moving critical information outside of the firewall (DiMicco, Millen, Geyer, Dugan, Brownholtz, & Muller, 2008).

**Twitter.** A blend of instant messaging and blogging, Twitter allows users to provide short status updates to those who choose to receive them. It was created in August 2006 and has grown exponentially, boasting 200 million unique visitors (Royal Pingdom, 2013). One study that examined the use of Twitter indicates that the main motivations for the use of this tool are to report out on daily activities, and to seek or share information (Java, Finin, Song, & Tseng, 2007). It appears to be a popular tool during the workday, as a research study found that the activity on the site tends to rise during late morning hours, remain steady throughout the day, and decline in the evening (Krishnamurthy, Gill, & Arlitt, 2008).

People use Twitter as a means of gathering interesting and useful information because they follow people who have similar interests either personally or
professionally. As a result, it allows the user to learn about the people he or she works with. In one survey about the use of Twitter in the workplace, a respondent indicated that there are coworkers that he actively follows on Twitter who are within very close proximity to him but he never sees, so he is able to connect with them using Twitter instead (Zhao & Rossom, 2009). In their study, Zhao and Rossom also found that the use of Twitter in the workplace allows for feelings of connectedness even without actually being physically close, and may foster the development of intimacy between colleagues and sustain a feeling of connectedness that would aid in future professional collaboration. The knowledge gained about co-workers through their posts on Twitter allows employees to build rapport, sometimes before ever formally meeting one another. Social information is a critical part of information sharing and forming social networks in the workplace (Ehrlich & Shami, 2010).

Its use in organizations is growing. For example, the Red Cross uses this tool to alert employees and volunteers about evacuations, provision distribution and other important information during disasters (McAdams, 2008). In addition to its previously mentioned use of Facebook, Proctor & Gamble has also used Twitter to share emergency information with its employees after an episode of violence near one of its factories in Norway (Casey, 2011). Some organizations encourage its use for, among other things, boosting employee morale by allowing employees to post positive things about one another (Penn, 2011). Human resources departments are beginning to leverage Twitter to attract qualified individuals for job openings, and customer service departments use it in order to interact directly with consumers and to “listen” to what opinions people are sharing about them on the network (Casey, 2011).
As a testament to Twitter’s utility as a tool to contribute to the development of a community of practice, study results showed that extended conversations on Twitter indicate that some users are taking advantage of Twitter for informal collaboration (Honeycutt & Herring, 2009).

**LinkedIn.** As reviewed in Chapter One, LinkedIn serves the purposes of providing networking and communication functionality. However, unlike a tool such as Facebook, instead of “friending,” participants in LinkedIn can “link” to others on the site with whom a professional connection is shared. Users can endorse or recommend one another by providing online references, much in the same way that products are reviewed on Amazon.com. The links allow the user to explore others’ networks to expand connections and perhaps meet others with similar business interests, or find new vendors, partners or employees in the process.

It also allows for the creation of groups, through an informal application and acceptance process, such as for alumni of a college or university or even a former employer. The site has exploded in popularity, growing to include of 187 million members, (Royal Pingdom, 2013) and tends to skew a bit older in its user demographic than Facebook (Skeels & Grudin, 2009).

One of the challenges of the purpose of LinkedIn—that is, connecting those in similar or related fields—is that the networking that is being conducted can at times be in the form of a job search. The user indicates his or her educational background and professional history. Organizations struggle with promoting the use of this tool when they realize that it is opening up doors to potential jobs outside of
their current employer that their employees may not have been aware of otherwise (Hoover, 2007).

**Challenges with the Use of Web 2.0 Tools in the Workplace**

**Adoption.** Gaining adoption can be a challenge in the introduction and use of Web 2.0 tools within an organization. The McKinsey study showed that role modeling plays a significant role in how well the tools are incorporated into the corporate culture. If the executives are seen using these tools, others within the organization will view that as a sign that it is acceptable for them to do so as well (Bughin et al. 2009).

However, other research indicates that senior executives are fearful of social media and are hesitant to adopt it (Loechner, 2009).

**Impact on productivity.** While many organizations are adopting the use of these tools, there are also those who are not comfortable with their employees spending work time on these sites. Many financial services firms, for example, have restricted the use of these tools in the workplace (Hoover, 2007). Those that do allow the use of the tools also have concerns that they are being used for personal, or frivolous, reasons, and are a waste of valuable work time. One study showed that companies that allow full access to Facebook at work resulted in a productivity decrease of 1.5% (Gaudin, 2009). Another study in the United Kingdom estimated that the equivalent of approximately $264 million is lost daily by employees who are using Facebook during the workday (O’Brien, 2007). Another study that focused on those who used Facebook in the workplace found that 87% of those surveyed could not identify a clear business reason for doing so (Boulton, 2009).
This is not being lost on organizational leadership. A third study indicated that 51% of the executives in its sample expressed concern that social media was detrimental to employee productivity (Loeclmer, 2009). In another study about the use of an intranet, a social networking site specifically for the use of employees of a particular organization, the results found that professionals within the organization feared that their peers would consider them less competent if they used the site to post questions that may seem obvious or stupid. They also expected that their management would not appreciate it if it appeared that they spent too much time online on the intranet, as opposed to directly on the job (Vaast, 2004). Even those organizations that do embrace Web 2.0 tools as a means of collaboration and communication have found that there are still some inherent challenges in doing so. Though Web 2.0 tools allow for massively distributed collective intelligence, how that information is organized and archived can be problematic. If content is posted through different vehicles, such as Twitter, blogs, or a podcast, then it is difficult to keep track of what is posted where (Mason & Rennie, 2007).

Though these statistics may sound foreboding and potentially damning for the future growth of the use of social networking sites in the workplace, history has shown that this pattern is not unusual. Research has indicated that new technologies in the workplace are often viewed with skepticism. Many organizations at one time argued that e-mail was a time-waster and predictions were made that it would be removed from the workplace. Following that, others made the case that instant messaging was a similar nuisance and distraction and would have no utility in the workplace. Now, organizations find that they cannot function without e-mail, and instant messaging has
become a critical means of workplace communication (Skeels & Grudin, 2009). In fact, one study of the use of instant messaging in the workplace found that there was a relatively small amount of conversation on non-work topics, only about 8% of those studied (Handel & Herbsleib, 2002).

**Security.** The introduction of Web 2.0 tools into the workplace can be troubling to those who are responsible for the security and sanctity of the organization’s information technology functionality.

A poll by Sophos indicated that 50% of companies block access to Facebook (Green, 2007), and 66% of workers felt that their co-workers shared too much information on these tools, potentially releasing company-sensitive information.

Another study indicated that 74% of employees surveyed indicated that they believe social networking sites can damage a brand’s reputation. At the same time, 61% of those surveyed indicated that even if their employer monitored their behavior in social networking sites, it would not impact their behavior (Nancherla, 2009).

Only 30% of respondents in one survey indicated that their organization has a policy in place to govern the use of social media and just 10% of companies have conducted any kind of training on the use of social media (Loechner, 2009).

Privately held companies may find the use of social media and social networking sites in the workplace less of a concern as publicly traded ones, as these firms need not be worried about their stock value being impacted by an errant Twitter or Facebook post (Schweitzer, 2009).

**Social Networking Sites and Organizational Learning**
Learning involves a number of elements that are not evident or explicable, and are often created as a result of the specifics of the community within which the learner engages. One aspect of workplace learning is legitimate peripheral participation (Lave & Wenger, 1998). This is described as the situation when newcomers to a group engage gradually through participating in simple, low-risk tasks. In the case of participating in a new group through social networking sites, it may be an act such as a “like” on a Facebook comment, or a “retweet” on a Twitter post. The newcomers can observe practices of experts and mirror that behavior (Brown & Duguid, 1991).

Informal Learning. Marsick and Watkins (2001) define informal learning as that which is predominantly experiential and non-institutional. It is different than formal learning as it requires a lesser degree of control by the learner and takes place outside of formal settings. As illustrated in the Figure 2.1, one of the qualities listed in this continuum that describe informal learning is that it is “encouraging (of) self-organized personal learning” and that informal learning aids in the development of communities of practice.
Bolman and Deal theorized that there are four “frames” through which an organization can be studied: structural, human resources, political and symbolic. (Marsick, Volpe, & Watkins, 1999). Informal learning examined through each of these frames helps to illustrate how it evolves within an organizational culture. Through the “structural” frame, assuming the structure is stable and reliable, informal learning will take place in a similar fashion, helping the individual to understand the norms and patterns of the organization. Within the “human resources” frame, the priority for informal learning is not necessarily the outcome of understanding but in making sure that the individual is supported psychologically and emotionally during the acclimation period. Building a community is an important facet of this structure,
as those within a community are often more willing to share information and mentor others. In the “political” frame, informal learning is influenced by the power balance within the organization. This can impact how and if information is shared, as in this environment, people are often careful about what they share, or may deliberately share erroneous information in an attempt to shore up their own position at the expense of someone else’s. The “symbolic” frame is applicable in organization in which goals and roles are unclear and unarticulated, impacting decision-making and creating an unstable environment. As a result, informal learning struggles, as the flow of information may be restricted. In this type of structure, individuals tend to learn what they need to know on their own as opposed to learning through others.

Informal learning can be seen as an important component to new learning environments. With regard to its relationship to social media and social networking sites, it can be said that microblogging, through a tool like Twitter, can foster process-oriented learning due to the fact that it can allow continuous and transparent communication from the learner to the mentor. Posting thoughts and “information pieces” via microblogging make it possible for users to participate with others in their thinking, and due to its transparency, teachers can view and intervene if necessary. A research study conducted within indicated that informal learning did occur through microblogging (Ebner, Lienhardt, Rohs & Meyer, 2009).

The remainder of this literature review will focus on the theoretical framework on which the study is founded: the communities of practice.
Communities of Practice

Communities of practice are groups of people who share a passion for something that they know how to do and who interact regularly to learn how to do it better (Wenger, 2007). Through the use of social networking sites, dialogue and conversations transpire to allow for the fostering of communities of mutual engagement and benefit.

Communities of practice leverage distributed cognition—that is, knowledge and expertise that are distributed across individuals, environments and artifacts (Pea, 1993)—as knowledge is produced as a result of communities of practice using social networking sites. Social networking tools create a bridge between the knowledge of one individual and the community. As people engage with one another through social networking sites, knowledge and expertise is shared between individuals and sometimes among groups, as exchanges on social media are often made in public, and therefore many can learn simultaneously.

As a result, ideas are shaped and evolved as the community contributes through comments and other associated postings (Gunawardena, Hermans, Sanchez, Richmond, Bohley, & Tuttle (2009).

The notion of a community of practice was originally constructed from five accounts witnessing a very wide diversity of application: (a) Yucatec Mayan midwives in Mexico, (b) Vai and Gola tailors in Liberia, (c) the work-learning settings of U.S. navy quartermasters, (d) butchers in U.S. supermarkets, and (e) “nondrinking alcoholics” (recovering alcoholics) in Alcoholics Anonymous (Lave & Wenger, 1991). However, these cohorts have been in existence in a variety of forms for
hundreds of years, although it was not until these five accounts were studied that a
ccontemporary basis for the concept was established (Kerno & Mace, 2010).

Knowledge exists in the social practices of a community; communities of practice aid
in managing knowledge and encouraging participatory learning. Knowledge creation,
transfer and management are developed and executed through member participation
and social exchanges in the context of a community of practice. Organizational
socialization often occurs through interactions with colleagues, as people tend to rely
on observing others to understand and make sense of a new environment and in
learning how to fit in with the established social norms (Gibson, 2004).

A community of practice has its own language, perspectives and negotiated
meanings. It also allows users to have the opportunity to reflect on ideas, provide
feedback to others and build communities of knowledge. In terms of its relevance to
how people learn within them, communities of practice are said to have five phases of
learning: context, discourse, action, reflection and reorganization (Gunawardena, et. al.,
2009).

- Context. Who the users of a social networking site and how they use it
- Discourse. This is defined as how the exchanges in social media are being
interpreted by the participants in terms of meaning. The participants’ own
experiences and viewpoints are brought in to make the interactions richer.
- Action. The use of the social networking site helps to connect with others
who also want to share.
- Reflection. This is defined by the interaction of personal experience and the collective thoughts of the group. It is here that differing points of view are considered by those participating in the process.

- Reorganization. Based on the reflection, shared meaning takes shape, and participants adjust their understanding and the group functions more cohesively.

Other distinctive qualities that differentiate a community of practice from other types of groups is that there is a common interest among all group members; in fact, its membership generally works in or around the field of interest with varying tenure. As its name implies, there is also a genuine spirit of community among its members, with a give-and-take relationship; in this case, exhibited via exchanges through social networking sites.

Communities of practice need a variety of components in order for them to survive and flourish, including the services of a coordinator, whether formally appointed or not, involvement of experts, and an energy that helps to sustain them. Typically participation is not required, and there are normally no formal deliverables. They may have an informal leader but generally do not have any formal reporting structure (Matthews, Whittaker, Moran, & Yang, 2010).

Etienne Wenger, a leading scholar in the study of communities of practice, has defined fourteen indicators of the existence of a community of practice (Wenger, 1998, pp. 125-126). Those indicators are as follows:

- Sustained mutual relationships
• Shared ways of engaging in doing things together

• The rapid flow of information and propagation of innovation

• Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process

• Very quick setup of a problem to be discussed

• Substantial overlap in participants’ descriptions of who belongs

• Knowing what others know, what they can do, and how they can contribute to an enterprise

• Mutually defining identities

• The ability to assess the appropriateness of actions and products

• Specific tools, representations and other artifacts

• Local lore, shared stories, inside jokes, knowing laughter

• Jargon and shortcuts to communication as well as the ease of producing new ones

• Certain styles recognized as displaying membership

• A shared discourse reflecting a certain perspective on the world.

Communities of practice have a number of documented benefits. Perhaps the most widely recognized benefit is their ability to allow for the generation and dissemination of the elusive tacit knowledge, that is, knowledge which is difficult to share via conventional methods because it is mostly intuitive and tied into a specific context (Ardichvili, 2008). Some of the short-term benefits of participation in these communities for the participants themselves are to receive help with problems and
challenges they are facing and access to the expertise of the membership. In the long run, individuals who participate in communities of practice gain personal development and improvements in their personal marketability and professional reputations. Organizations that sponsor or support communities of practices benefit from the synergies that are created and the problem-solving that occurs to help the organization operate with more efficiency.

However, they are not perfect, nor are they a solution for every organizational issue. One of the drawbacks of communities of practice is in fact one of the qualities that make them attractive: that is, the closeness that develops among its membership. This can at the same time be daunting and intimidating for newcomers, and could prevent them from feeling like they have a chance to contribute (Wang, 2010).

The development of a community of practice can be very organic by nature. It is one of the distinctions in that a community of practice evolves gradually and naturally in most cases, and move through a series of stages during its existence. Wenger, McDermott and Snyder (2002) describe the five stages of the community of practice lifecycle as follows:

1. Potential (informal network of people with a common interest)
2. Coalescence (Value seen from connection)
3. Maturity (Focus and roles are clarified, active and dynamic engagement)
4. Stewardship (Organically evolving and growing,)
5. Transformation (Radical transformation, dispersal, or death)

A community of practice is different from a community of interest or a geographical community in that it involves a shared practice. Participants in a
community of practice normally begin through “legitimate peripheral participation.”
This occurs when they test the waters through minimal occasional engagement. Initially
people learn at the periphery. They observe, but don’t contribute much. As they
become more comfortable and knowledgeable, they move into full participation (Lave
& Wenger, 1991). In the social media world, this is often referred to as “lurking”
(Crawford, 2009).

Individuals may belong to several different types of communities of practice in
varying degrees of participation, either at home or at work or in their community. One
can be a central player in one community of practice, and on the periphery in another.
All participation, even at the periphery, is considered legitimate learning, and it is
through the construct of participation that individuals learn (Gray, 2004).

Virtual Community of Practice

As stated previously, a community of practice is not dependent upon physical
proximity. As noted, the nature of this research is based on the development of
communities of practice through the use of social networking sites. Though these
communities can contain members who work side by side one another, its membership
may or may not ever meet one another in person. Therefore, a “virtual” community of
practice evolves as a result. Virtual communities of practice assume that its members
needn’t be physically together to learn from one another socially. By the nature of its
name, a virtual community of practice develops through the communication between
members via Web-based—”virtual”—electronic channels such as e-mail, discussion
forums, blogs, wikis, and social networking sites (Wong, Kwan & Leung, 2011).
A virtual community of practice need not be connected to a preexisting group. It can form organically around a collective interest, as have many Web-based communities, or they may be purposefully created to facilitate communication and learning among a particular group of people (Detmen & Wang 2002). Considering the evolution of the workplace with the advent of more and more technologies, it is not inconceivable to consider that virtual learning spaces/places may replace training rooms; social technologies may replace “training technologies;” “activities” may replace “course” in terms of the unit of training (Hart, 2011).

Virtual communities of practice play a pivotal role in the enterprise learning strategies of numerous multinational corporations, including Caterpillar, Chevron, Ford, IBM, Raytheon and Xerox (Ardichvili, 2008). Ardichvili et al. (2003) have found in their research around virtual communities of practice in a large multinational corporation that the majority of study participants viewed their knowledge as a public good, belonging not to them individually, but to the whole organization.

Two major forms of virtual learning environments are virtual learning communities (McCalla, 2000; Schwier, 2001), and distributed communities of practice. A virtual learning community is described as a group of individuals who collaborate online with the specific goals of learning (Daniel, McCalla, & Schwier, 2002), while a distributed community of practice refers to a group of geographically distributed individuals who are informally connected by shared experience, interests or work and rely on the Internet to connect to each other. A key difference between distributed communities of practice and virtual learning communities is the nature of membership identity. While most individuals in virtual learning communities often hardly know
each other, individuals in distributed communities of practice are typically well known to each other. Although all virtual communities have an element of learning in them, not every community can be referred to as a learning community. A learning community implies that members have explicit goals involving learning. Also, highly skilled or knowledgeable individuals in a community are a necessary but not a sufficient condition for a community to become a “learning community.”

Knowledgeable or experienced individuals in a learning community join those who are less knowledgeable so that members grow mutually as a community. Several distinctive qualities of both forms of virtual learning environments are shared in Table 2.1 (Daniel, Schwier, & McCalla, 2003).

Table 2.1.

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<thead>
<tr>
<th>Distinctions Between Virtual Learning Communities and Distributed Communities of Practice</th>
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<tr>
<td>Virtual Learning Communities</td>
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<tr>
<td>Less stable membership</td>
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<tr>
<td>Low degree of individual awareness</td>
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<tr>
<td>More formalized and more focused learning goals</td>
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<tr>
<td>More diverse language</td>
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<tr>
<td>Low shared understanding</td>
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<tr>
<td>Strong sense of identity</td>
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<td>Strict distribution of responsibilities</td>
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<td>Easily disbanded</td>
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Table 2.1 continued

<table>
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<tr>
<th>Virtual Learning Communities</th>
<th>Distributed Communities of Practice</th>
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<tr>
<td>Low level of trust</td>
<td>Reasonable level of trust</td>
</tr>
<tr>
<td>Life span determined to extent to which goals or requirements are satisfied</td>
<td>Life span determined by the value the community provides to its members</td>
</tr>
<tr>
<td>Pre-planned enterprise and fixed goals</td>
<td>Joint enterprise as understood and continually renegotiated by its members</td>
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<tr>
<td>Domain specific interests</td>
<td>Shared practice professions</td>
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In short, virtual communities of practice can be a valuable outlet for sharing information and providing a venue for newcomers to an organization to become indoctrinated into a culture and learn its customs and practices. It is a place where all members can learn together through the sharing of their experiences. Just as in a physical community of practice, a virtual community of practice can act as a tool for informal learning (Gray, 2004).

Chapter Summary

After a review of the literature, it seems clear that the study of social media and social networking sites in the workplace is just beginning. There are many conflicting results and discussions in the research that has been conducted to date: some are very supportive of these tools as a means of building collaboration and community and sharing information among employees and other related populations in the workplace; and others fall into the camp that finds these media vehicles as distracting, and potentially harmful, wastes of time. The review indicates that currently, the challenges seem to outweigh the benefits, with the negative impact on an organization’s bottom
line, security issues, and utilization throughout the organizational hierarchy as strong barriers to the adoption of the tools in the workplace. However, as shown, these concerns were also felt about e-mail and instant messaging when they were introduced into the workplace, so perhaps this is a natural process.

By utilizing the communities of practice framework, this study will aim to add to this body of research by analyzing these tools in the context of a workplace in order to provide leaders and employees in organizations with an understanding of how these tools and resources contribute to the building of communities of practice and informal learning, and ultimately the increased level of engagement with one’s work and colleagues.
Chapter 3

Methodology

This chapter discusses the relevant sections: the problem, research questions, measurement, variables, instrumentation, data collection and data analysis. This will outline the plan of action that was executed in order to achieve the objectives of this research.

The Problem

Social media and social networking sites allow for the exchange of ideas and useful knowledge in many professional settings, and are really no different than other forms of media and communication at the disposal of those in a workplace. However, unlike more mainstream communication channels, conflicting points of view exist regarding the utility and appropriateness of the use of social media in the workplace. Some feel that these channels greatly contribute to the building of community, and encourage the behavior; others feel that the use of these tools in the workplace is a distraction and contributes to wasting time and inefficiency (Rosen, 2008). This gets at the root of what this research is intended to do; that is, to help organizations answer the question: Does spending time using these channels contribute to communication, collaboration and informal learning, and building a community of practice in the workplace?

It would seem at first glance that the support for social media as a valuable and meaningful workplace tool is scant. Robert Half Technology recently released
findings that indicated that over 50% of the organizations that surveyed indicated that social media had been banned from being used in the workplace (Gaudin, 2009). This result would seem to suggest that these tools have little to no utility in the workplace. However, there is support for other points of view. In fact, a study conducted by the University of Melbourne (Fahmy, 2009) showed that people who used the Internet for personal reasons at work are more productive than those who do not.

Workplace dynamics are changing. With more generations working together than ever before (Salopek, 2000), a variety of communication styles are in play in every organization. While some individuals are more comfortable communicating in a traditional face-to-face format, and others are more apt to pick up the phone to talk, there is a whole new generation in the workplace whose members are much more comfortable communicating via e-mail, texting or other Web 2.0 tools such as Facebook, Twitter or LinkedIn. With nearly half of the U.S. workforce projected to be in the Millennial generation by 2020, organizations need to understand how this generation likes to communicate, and perhaps more importantly, how they like to gain knowledge, and how they use technology to do so (Lauby, 2012), since, in addition to their utility as communication tools, these innovations are rapidly revolutionizing the way that organizations learn (Aldrich, 2006).

At the same time, there is a real concern that these tools are negatively impacting worker productivity. Because the tools have personal as well as professional utility, it is not difficult to see how employees who use these tools to communicate with their colleagues on work-related matters would also take the time during the
workday to engage in personal communications as well, perhaps at the expense of their output for the day.

It is the purpose of this study to determine how three specific social networking sites, Facebook, LinkedIn and Twitter, are being used in the workplace in order to help organizations understand how the use of these tools can contribute to the development of functional communities of practice that can provide an outlet for communication, sharing of knowledge and informal learning.

Significance of the Study

A recent study indicated that organizations were collectively losing billions of dollars through productivity lost to social media tools such as Facebook (O’Brien, 2007). Information technology functions in organizations are often not supportive of the use of these tools either due to the security breaches that can occur as a result. Corporate communicators may feel uneasy about the freedom with which any employee can seemingly represent their organization just through a simple post on a blog or a status update on Facebook (Mainville, 2012). Taken at face value, this would lead to the conclusion that there is no utility for social networking sites in the workplace.

However, other research shows that the use of these tools promotes the building of networks and relationships among disparate groups, and taking breaks to use these tools during the workday—or “workplace internet leisure browsing”—is even being touted as a means of increasing employee productivity (Fahmi, 2009).
Many organizations are struggling with how best to utilize and monitor the use of these tools by their employees. Some are creating policies for their use just as they would for other technology that their organization uses. One telecommunications company has gone so far as to create a “social media training program” for its employees to educate them on the firm’s criteria for responsible use of this media (Stafford, 2009).

Organizations should know how best to leverage these tools in order to harness their abilities to build and maintain networks, communicate more effectively, collaborate across functions, and act as a channel for both formal and informal learning and development within the workplace.

**Research Questions**

This study will address the following research questions:

1. To what extent does the use of social networking sites in the workplace foster informal learning?

2. To what extent does the use of social networking sites in the workplace create a community of practice?

3. What learning do members of social networks experience through their participation in them?

**Measurement**

**Population.** Because the purpose of this study is to determine the development of a community of practice and informal learning that employees receive by utilizing
social media tools in the workplace, the population that was used for this project was adults who are employed in organizations. In order for organizations to be able to apply the results of this research to their organization, it was purposely kept to a broad population. No other defining demographics were assigned to the population.

Sample. The sample that was chosen for this study was a specific work unit within a national newspaper company. The newspaper’s staff numbers approximately 2,100. The unit that was chosen to study was the news division, which includes approximately 400 staff members. This sample was chosen because the news division needs the utility of social media in order to collaborate, communicate and educate each other quickly and seamlessly. A Manager of Reader Engagement was my liaison to working with this group. The manager received permission from the Managing Editor to conduct the research.

A sample size of approximately 196 is necessary for a study with a population of 400. This sample size was determined using table 13.1, Estimating Sample Size Given a 95% Confidence Level, Confidence Intervals, and Population Sizes for Normal Distributions (Farmer & Rojewski, 2001, p. 250). After agreeing to participate in the study, the parameters of access to the employees was changed by the newspaper company. Instead of distributing a survey as planned to the newsroom employees, the company granted permission to conduct a limited set of interviews instead with a small number of their newsroom staff, significantly smaller than the size needed for statistical significance. This change in the plan resulted in the acknowledgement that the sample size was not going to be large enough to result in any statistically significant findings, but the research plan moved forward in spite of that development.
In order to bolster the evidence resulting from the interviews, the survey was distributed through affinity groups on the three social networking sites being studied: Facebook, LinkedIn and Twitter. The demographic make-up of these affinity groups were similar in nature to those interviewed.

**Variables.**

*Independent variable.* An independent variable is one that is defined as a circumstance or descriptor that has an influence on something else (Fanner & Rojewski, 2001, p. 185). For the purposes of this research, the independent variables were length of use of social media in the workplace, the amount of time spent on social media during the workday, which tool the respondent indicated the survey answers were based upon (Facebook, Twitter or LinkedIn).

*Dependent variable.* A dependent variable is one that is defined as the “standard against which groups are compared or against which other variables are made to relate” (Farmer & Rojewski, 2001, p. 185). For the purposes of this research, the dependent variables were the respondent’s perception of the degrees of learning and connectedness they feel toward their organization as a result of their use of social media. These variables were chosen in order to gain a better understanding of the impact of social media on the building of communities of practice and informal learning in the workplace.

**Instrumentation**

As stated earlier, the communities of practice framework has been in place for decades and a variety of instruments have been used to add to this body of research.
Both qualitative and quantitative studies, and mixed methods, have been used to gain insights using this framework. When researchers bring together both quantitative and qualitative research, the strengths of both approaches are combined, leading, it can be assumed, to a better understanding of research problems than either approach alone. (Creswell & Grant, 2008).

For the purposes of this study, the Classroom Community Scale developed by Alfred Rovai (2002) was used and modified for the purposes of a workplace audience. It was used to quantitatively measure the relationship between learning and connectedness among members of a social networking site and qualitatively measure the themes that become evident through content analysis of the open ended questions. One-on-one interviews were also be used to flesh out the responses to the survey.

Validity. As the communities of practice framework and its associated instruments have been in place for decades, it can be assumed that its construct has been validated. The validity of the content in the survey was ascertained through the use of content validity. Subject matter experts in the field of organization development, social media and education were solicited to provide feedback on the modified instrument. In selecting the subject matter experts, several criteria were considered, including their experience with the topic area, professional certification, presentations on the topic at professional conferences, or research on the topic. A panel of experts should have at least two reviewers who are experienced in the content area to be measured and one who is an expert in instrument construction (Davis, 1992). Three experts were selected and asked to review the instrument, and all three agreed to do so. As a result, the three agreed that the instrument would be useful to measure the
intended outcomes. Two open-ended questions were added as a result of this in order to capture some specific examples of the impact of social media in the workplace.

**Reliability.** Reliability provides information regarding internal consistency. As the dependent variables are formatted in 5-point Likert-type scale, Cronbach’s $a$ is an appropriate technique to ascertain reliability (Farmer & Rajewski, 2001, p. 214). Using SPSS, the appropriate tests were run using the two factors of learning and connectedness. Several of the questions needed to be reverse coded due to their wording. The reliability for the items linked to connectedness showed a reliability of over 90%, and the items linked to learning showed a reliability of .79%.

**Data Collection**

**Construction of the questionnaire.** A sample of this questionnaire can be found in Appendix B. Permission was sought from and given by the creator of the Classroom Community Scale to use the instrument in this study. Documentation of the approval can be found in Appendix A. Since the original instrument was slightly modified in order to make it more relatable to the target population, a determination of content validity was needed. In order to ascertain content validity, a panel of experts was chosen to review the instrument. Three professors, two internal to Penn State and one from the University of Wisconsin, were given the instrument as well as some background on the purpose and intent of the study, and were asked for their feedback. The professors were chosen based on their experience with the topics that are being studied—specifically social media and workplace learning and performance. The qualifications of the experts who were chosen to review the instrument satisfy these
criteria. Panel members felt that the content of the survey that related to social media was clear and had an appropriate connection to the goals of the research, and that the instrument would be a useful tool in gaining insights into the outcomes of the use of these channels in the workplace.

A measurement of reliability was also taken to ensure that the instrument was measuring what it was intended to do. A pilot study was conducted with the staff of a small unit within Penn State University. The survey was distributed to 33 employees of a unit and 20 responses were received. Reliability tests were conducted on the data using Cronbach’s alpha in SPSS. The tests examined the two dimensions of connectedness and learning. For connectedness, the Cronbach’s alpha was .9 and for learning, it was .79. Both of these measures indicate at least acceptable reliability, which is generally agreed to be a level of .7 or above (Kline, 1993, p. 173).

**Social networking site analysis.** Another component in addition to the interviews and the survey was to conduct a study that follows the Twitter, Facebook and LinkedIn activity of select survey and interview respondents over a six-week period of time. A Twitter account, @psuphd, was created for the express purpose of following the posts of those who agreed, so as to keep this activity separate from the researcher’s personal Twitter account. After the six-week period, their comments were analyzed and coded to determine themes and ultimately, categorized according to the purpose that the postings served. For example, if a reporter posted via Twitter to another reporter information about a story that they were working on together, that post might be categorized as “discussion.” If a reporter posted via Twitter about a movie she saw, it might be categorized as “sharing information.” The categories used for the
study were modeled after those used in a similar study of social networking site postings in the workplace (Davis, 2010) and the approach to the segment of the research was based on a similar examination of the use of Twitter through content analysis (Jansen, Zhang, Sobel, & Chowdury, 2009).

**Human subject protection.** Before embarking on this research, proper approval from the Office of Research Protection at Penn State University was sought. As the survey was to be Web-based, and no incriminating or harmful information was being collected, it was anticipated that there would be minimal risk to the participant. The Office of Research Protections approved this research project, and evidence of this approval can be found in Appendix C.

**Recruiting the respondents.** The data were gathered through several methods. There were a series of one-on-one interviews with the newsroom staff of the newspaper company. There were also respondents to a web-based questionnaire distributed via a survey invitation issued to affinity groups on LinkedIn, Twitter and Facebook. A subset of both of those audiences was also invited to participate in an analysis of respondents’ posts on social media to determine any themes or trends as they relate to the elements of a community of practice. The Manager of Reader Engagement offered to be the liaison to employees at the newspaper company to distribute the invitation to participate in the interviews. It was felt that the invitation would be better received coming from an internal entity, and less likely to be misdirected into a “spam” or “junk” folder of an employee’s e-mail box if sent from an external address. The web-based survey was developed and distributed using a web-based tool called SurveyMonkey. This kind of a vehicle was chosen because of prior success in
distributing surveys with it. The tool is easy for both the administrator and the respondent to use. Additionally, since the sample for this study is being studied for their use of Web-based tools, it was felt that the use of a Web-based study should pose no difficulty. Table 3.1 illustrates a summary of the audiences who participated in this research and the methods through which they participated.

Table 3.1

*Summary of Survey Respondents and the Data Collection Methods Used.*

<table>
<thead>
<tr>
<th>Respondents</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Members of journalism affinity groups on social media sites, including Facebook, LinkedIn and Twitter</td>
<td>Web-based survey</td>
</tr>
<tr>
<td>Newsroom staff from a national newspaper</td>
<td>One-on-one interview</td>
</tr>
<tr>
<td>A combination of participants from the one-on-one interviews and the Web-based survey</td>
<td>Social media post analysis</td>
</tr>
</tbody>
</table>

**Follow-up.** Reminder posts were distributed to the affinity groups within two weeks after the initial request was made. The researcher ceased data collection for the survey four weeks after the initial request is made. The Twitter, Facebook and LinkedIn analysis continued on for an additional six weeks after the questionnaire data collection concluded.

**Data Analysis**

**Survey analysis.** Survey data was aggregated and analyzed using quantitative analysis tools and descriptive statistics such as means, standard deviations, ranges and
other appropriate applications as needed. The open-ended questions were analyzed for common themes and trends.

**Social media post analysis.** For the piece of the study that examines the content of the social media posts of the participants, the posts over the six-week period were culled and compiled into a spreadsheet. In order to verify the accuracy of the results, manual classification and coding of a sample of the postings was conducted. After the Twitter content collection procedures were complete, a qualitative analysis was conducted to determine themes or trends. In order to help alleviate any unintended bias by the researcher, several other experts were solicited to provide their perspectives on the data collected in order to ensure a level of consistency in the categorization of the posts (Turner, 2010).

**Interview analysis.** Each interview was recorded, with the permission of the participant, in order to be able to transcribe the call and analyze themes and trends. These responses were used to supplement the data captured via the survey.

**Pilot testing.** Because the instrument was being modified from its previous use to focus on the utilization of social media in the workplace, a pilot study was recommended for this research in order to ensure that the questions are understood by the sample and that the questions were measuring what was intended. Therefore, this research was conducted in two phases: one with a university-based sample and one from industry. The pilot study is referred to as “Phase I,” and the industry study is referred to as “Phase II.” The pilot was completed using individuals not related to or involved with the initial design of this research.
Those who were solicited to be a part of the pilot test were not from the research population, so no one could participate in both the pilot test and the latter study. The results of the pilot study will be described below in three sections: a profile of the participants, a summary of the participants’ perceptions of connectedness, and a section on their perceptions of the learning.

**Pilot study participants.** The pilot study participants were members of a distinct work unit within Pennsylvania State University. This work unit is responsible for the evaluation and dissemination of educational technology for the university faculty, students, and staff. Permission was sought and given by the director of the unit to use its employees as participants of the pilot study in order to test the instrument. At the time of the pilot, there were 35 employees in this unit.

The web-based survey was distributed via e-mail with a request for participation from the director himself. Of the 33 employees in the work unit, 20 completed the survey, resulting in a response rate of 60%. Some highlights of the respondents’ demographic data include:

- Responses came from people with a wide variety of job titles, with nine different positions represented from the sample.
- The mean and media age of respondents was 40, with a range of ages 28 to 59.
- This is a well-educated audience, with 80% holding a bachelor’s degree or higher, including two with doctorates.
- The respondents were mostly all well-versed in the use of social media, as 95% of them indicated that they have been engaged with social media for
more than two years prior to taking the survey. 60% indicated more than five years of social media use.

- 65% indicated that they used social media in the workplace for an hour or more a day

**Participants’ perceptions of connectedness.** Table 3.2 below summarizes how the respondents felt that the use of social networking sites in the workplace influenced their feelings of connectedness at work.

Table 3.2

*Summary Information for Connectedness for Phase I Participants, n=20.*

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree (%)</th>
<th>Disagree (%)</th>
<th>Neutral (%)</th>
<th>Agree (%)</th>
<th>Strongly Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel members of this social network care about each other.</td>
<td>0</td>
<td>10</td>
<td>30</td>
<td>45</td>
<td>15</td>
</tr>
<tr>
<td>I feel connected to others in this social network.</td>
<td></td>
<td></td>
<td>25</td>
<td>65</td>
<td>10</td>
</tr>
<tr>
<td>I do not feel a spirit of community in this social network.</td>
<td>5</td>
<td>55</td>
<td>35</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>I feel like this social network is like a family.</td>
<td>0</td>
<td>55</td>
<td>10</td>
<td>35</td>
<td>0</td>
</tr>
<tr>
<td>Item</td>
<td>Strongly Disagree (%)</td>
<td>Disagree (%)</td>
<td>Neutral (%)</td>
<td>Agree (%)</td>
<td>Strongly Agree (%)</td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>-----------------------</td>
<td>--------------</td>
<td>-------------</td>
<td>-----------</td>
<td>-------------------</td>
</tr>
<tr>
<td>I feel isolated in this social network.</td>
<td>0</td>
<td>85</td>
<td>5</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>I trust others in this social network.</td>
<td>0</td>
<td>10</td>
<td>45</td>
<td>35</td>
<td>10</td>
</tr>
<tr>
<td>I feel like I can rely on others in this social network.</td>
<td>5</td>
<td>55</td>
<td>15</td>
<td>20</td>
<td>5</td>
</tr>
<tr>
<td>I feel uncertain about others in this social network.</td>
<td>0</td>
<td>45</td>
<td>25</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td>I feel confident that others in this social network will support me.</td>
<td>0</td>
<td>15</td>
<td>45</td>
<td>35</td>
<td>5</td>
</tr>
</tbody>
</table>

The responses to several items indicate that there is evidence of connectedness through the use of social media with this group, as more than 60% agree or strongly agree that members of the social network care about each other; that there is a feeling of connectedness and a spirit of community. This is also supported by the fact that 85% indicated that they do not feel isolated in the social network.
While there is a spirit of caring and connectedness, the respondents only take it so far, as 55% disagreed with the statement that the social network feels like a family. There also appears to be a bit of ambivalence about the level of commitment required to participate in the social network, as 60% indicated disagreement when asked if they felt that members of the social network depended on them.

**Participants’ perceptions of learning.** Table 3.3 summarizes how the respondents felt that the use of social networking sites in the workplace influenced their learning at work.

Table 3.3

*Summary Information for Learning for Phase I Participants, n=20.*

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree (%)</th>
<th>Disagree (%)</th>
<th>Neutral (%)</th>
<th>Agree (%)</th>
<th>Strongly Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel I am encouraged to ask questions in this social network.</td>
<td>0</td>
<td>10</td>
<td>55</td>
<td>25</td>
<td>10</td>
</tr>
<tr>
<td>I feel that it is hard to get help from this social network when I have a question.</td>
<td>0</td>
<td>45</td>
<td>30</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>I feel I receive timely feedback from this social network.</td>
<td>0</td>
<td>5</td>
<td>25</td>
<td>70</td>
<td>0</td>
</tr>
</tbody>
</table>
Table 3.3 continued

<table>
<thead>
<tr>
<th>Item</th>
<th>Strongly Disagree (%)</th>
<th>Disagree (%)</th>
<th>Neutral (%)</th>
<th>Agree (%)</th>
<th>Strongly Agree (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I feel uneasy exposing gaps in my understanding in this social network.</td>
<td>10</td>
<td>35</td>
<td>40</td>
<td>15</td>
<td>0</td>
</tr>
<tr>
<td>I feel reluctant to speak openly in this social network.</td>
<td>5</td>
<td>25</td>
<td>40</td>
<td>25</td>
<td>5</td>
</tr>
<tr>
<td>I feel like participating in this social network results in only modest learning.</td>
<td>0</td>
<td>25</td>
<td>35</td>
<td>30</td>
<td>10</td>
</tr>
<tr>
<td>I feel that by participating in this social network, I am given ample opportunities to learn.</td>
<td>5</td>
<td>15</td>
<td>40</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>I feel my educational needs are not being met through this social network.</td>
<td>5</td>
<td>60</td>
<td>30</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

There was less agreement throughout the items focused on learning, and very few strong opinions one way or the other. In fact, almost all of the items resulted with a third
or more neutral responses. Respondents agreed most strongly when they indicated a belief that they receive timely feedback from the social network and that it promotes a desire to learn.

Chapter Summary

The main purpose of this study is to determine the impact of the use of social media on the development of communities of practice and informal learning in the workplace so that organizations can determine the benefit of these tools. In order to determine this, a sample population that is reflective of a dynamic organization was studied in the hopes that the results can be generalized to a larger workplace audience.

Descriptive statistics were analyzed to respond to the research questions and determine if the use of social networking sites in the workplace has an influence on informal learning and the development of communities of practice in the workplace.

The survey research and interview analysis, combined with the analysis of the Facebook, Twitter and LinkedIn activity of the respondents, provide a rich and robust view into the phenomenon that is social media use in the workplace, and allows organizations to gain insights into how these tools can be best utilized by their employees.

The next chapter will provide insights into the findings from the second phase of the study with the non-university group.
Chapter 4

Findings: Phase II

This chapter presents the results of the post-pilot data analysis that was undertaken for the second phase of the research that examined the responses of the non-university-based group. The purpose of this study was to analyze the impact that social media had in the workplace on informal learning and the building of communities of practice. This chapter will be split into three sections: a profile of the participants, a summary of the participants’ perceptions of connectedness and a section on their perceptions of the learning.

The following research questions were answered:

1. To what extent does the use of social networking sites in the workplace foster informal learning?
2. To what extent does the use of social networking sites in the workplace create a community of practice?
3. What learning do members of these social networks experience through their participation in them?

Data Collection

The data collection was comprised of three components: one on one interviews, social media post analysis and a web-based survey.
Profile of the research respondents.

*Interviews.* As a result of the inquiry at the newspaper company to engage their newsroom staff in my research, an invitation was made to a select group of reporters to be interviewed by phone about their use of social media in the workplace. A total of four reporters responded with a willingness to participate in an interview. These four did not complete the web-based survey. They represented different areas of editorial coverage in the newsroom. All were female.

*Social media post analysis.* Those who were interviewed and those who completed the survey were given the opportunity to have their posts on either Facebook, LinkedIn or Twitter followed as a means of analyzing the content to determine any broad themes and supporting evidence as to the tools’ contributions to informal learning and/or the development of communities of practice. A total of nine respondents agreed to be followed on Twitter for this purpose; seven female, two male. All identify themselves as reporters. Eight of the respondents indicate they are employed by major news services such as *The Wall Street Journal* and *USA Today* and one identifies as a freelance writer/editor. Since Facebook and LinkedIn were not selected, only Twitter posts were used for the analysis.

*Survey.* The survey was distributed via three interest groups on social media: LinkedIn for Journalists (http://www.linkedin.com/groups/LinkedIn-Journalists-3753151), Facebook for Journalists (https://www.facebook.com/journalists) and Twitter for News (https://twitter.com/TwitterForNews).

According to the information on its page, Facebook for Journalists was founded in April 2011. It is managed by Facebook employees to provide resources for using
Facebook as a journalist and is also a community of journalists on the platform. As of February 2013, the page had over 215,000 “likes.”

Twitter for News serves a similar purpose. It is also managed by Twitter employees, and aims to help journalists find sources faster, tell stories better, and build a bigger audience for their work. According to the information on its page, as of February 2013, the Twitter for News account had almost 420,000 followers.

LinkedIn for Journalists began on January 19, 2011. It is described as the official group for professional journalists who want to learn how they can get the most out of LinkedIn. Group discussions focus on tips and tricks that reporters, editors, producers and freelance writers can use to help them find story ideas, sources and scoops via LinkedIn. Information on its page shows that the network boasts a membership of over 22,000 members.

On each of these sites, a brief post was placed asking for participation in the survey. Examples of this post can be found in Figures 4.1, 4.2 and 4.3.

Figure 4.1. LinkedIn for Journalists Survey Invitation.
After several weeks of promotion on these sites, a total of nine respondents completed the survey. Descriptive statistics of the respondents include:

- 88% of the respondents described themselves as being a reporter or correspondent when asked for a job title. One respondent gave the title of “freelance writer/editor.”

- The median age of respondent was 37, with a range of 28 to 52.

- All respondents indicated the completion of a bachelor’s degree; with 44% having completed a master’s degree as well.

- When asked when the respondent began using social media, 44% indicated that it has been more than five years. Just a single respondent indicated that it had been two years or less.
The amount of time spent using social media during the workday varied among the respondents. One-third indicated use of less than one hour a day; another third stated use of more than one hour but less than three hours per day; and the remainder indicated use of more than three hours per day.

The respondents were also asked to indicate their job title. A chart depicting the distribution of these is found in Figure 4.4.

![Figure 4.4](image.png)  
*Figure 4.4. Job Title Distribution for Survey Respondents. N=9.*

Aside from the demographic questions, a total of nineteen items were included in the survey; ten focused on connectedness and nine on learning. The respondent was given a statement and then asked to rate it using a five-point scale, with 1 representing “strongly agree,” 2 representing “agree,” 3 representing “neutral,” 4 representing
“disagree” and 5 representing “strongly disagree.” Before the participants responded to any of the survey items, they were asked to indicate their use of Facebook, Twitter and LinkedIn, and then choose which one of the three social networking sites they were thinking about as they considered the rest of the statements in the survey.

A chart showing the breakdown of the choices is found in Figure 4.5.

![Figure 4.5. Social Media Chosen by Participants in Reference to Survey Questions. N=9.](image)

It can be seen that the bulk of the survey respondents (55.56%) were primarily considering Twitter as they responded to the survey, and only one (11.11%) selected LinkedIn.
Research Question One

To what extent does the use of social networking sites in the workplace foster informal learning?

In order to explore the respondents’ experiences with social networking sites as a tool for informal learning, several questions on the survey and in the interviews were asked on this subject. The scale for the responses included strongly disagree, disagree, neutral, agree, and strongly agree. The results on learning are as follows:
Table 4.1

Learning Item 1: I feel that by participating in this social network, I am given ample opportunities to learn.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>6</td>
<td>66.7</td>
<td>66.7</td>
<td>77.8</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Over 88% indicate agreement or strong agreement with this statement.

Table 4.2

Learning Item 2: I feel that my educational needs are not being met through this social network.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
<td>55.6</td>
<td>55.6</td>
<td>66.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>88.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this statement, which was asked in a reversed manner, it can be seen that almost over one-third the sample disagreed or strongly disagreed with this, meaning that they do feel that their educational needs are being met through the social network. Over half gave this a neutral response on the survey. For the interviews, the statement was rephrased into a question: “Do you feel your educational needs are being met
through this social network?” A few of the verbatim comments from these interviews in which this topic was explored are as follows.

- Yes.
- I think that it is a good launching point. I don’t think that Twitter is the end-all be-all. I wouldn’t like get all my news from there and learn everything from Twitter. I mean, it’s just a piece of the bigger puzzle.
- Yes, definitely.

Table 4.3

Learning Item 3: I feel that this social network does not promote a desire to learn.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>88.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this statement, which was also phrased in a reversed manner, it can be seen that again almost 90% disagreed, meaning that they do feel that the social network promotes a desire to learn. A few of the verbatim comments from interviews on this topic are as follows. As in the item above, the statement was rephrased into a question: “Do you feel that this social network promotes a desire to learn?”

- Yes, I do. Because of the conversations that are happening.
• Yeah, definitely. Because you have so much information that you’re hearing all the time. You may not think of it as a resource but the message is out there in the end... This really helps you to grow.

• Yes, definitely yes. I mean I think especially in the Books Twitter community, people will post just thoughtful articles and I find myself reading things that are interesting, but I never would have sought out.

Table 4.4

Learning Item 4: I feel that it is hard to get help from this social network when I have a question.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>2</td>
<td>22.2</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>33.3</td>
<td>37.5</td>
<td>62.5</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>25.0</td>
<td>87.5</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>11.1</td>
<td>12.5</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>88.9</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing System</td>
<td>1</td>
<td>11.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In this item, the results show that over one third of the respondents that answered this item disagreed or strongly disagreed with this statement. A few of the verbatim comments from the interviews on this topic are as follows. Because of the phrasing of the statement in the survey, it was rephrased in the interview as “Do you feel that it is hard to get help from this social network when you have a question?”
• No, I don’t. Not so.

• No, not really. It’s a good network. And if you have questions or especially if you need feedback, just to get the question out there and someone will give you a response.

• I guess not. I think that if I had a question, that many people would respond.

• No, I don’t.

Table 4.5

*Learning Item 5. I feel that I receive timely feedback from this social network.*

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
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<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td>33.3</td>
</tr>
<tr>
<td>Agree</td>
<td>5</td>
<td>55.6</td>
<td>55.6</td>
<td>88.9</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this item, it is shown that over 88% of the respondents agree or strongly agree with this statement. A few of the verbatim comments from the interviews on this topic are as follows.

• Yes, I do.

• Yes.

• I think it has more to do with—like people being on Twitter at that one time rather than people kind of seeking out help. For example, if a big publishing house posted their question or an individual I’ve never heard of
posted their question, if that particular question resonated with me regardless of who tweeted it, I would answer.

- Yeah, very timely.

### Table 4.6

*Learning Item 6: I feel uneasy exposing gaps in my understanding in this social network.*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>66.7</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>88.9</td>
</tr>
<tr>
<td>Strongly Disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this item, it is evident that there is agreement with this statement, perhaps as an acknowledgement of the lack of privacy that many social networking sites provide. Unless one’s profile is kept private, most posts and responses are open for all on the network to see. This may inhibit individuals from asking questions that they feel they should already know. For the interviews, this item was rephrased into the question: “Do you feel uneasy exposing gaps in your understanding in this social network?” A few of the verbatim comments from the interviews on this topic are as follows:

- Yes, and all because even though with my Twitter feed is very public so I’m very careful about what—how I ask and what I ask.
• I guess if they are new stories, I would not want to post like a hunch or a theory or something that would be up to our standards on the actual web site or in the paper. But on my personal account, I would be fine doing that.

• No, I never do. I think that maybe it’s because the way that I was kind of taught to approach journalism was to ask. I mean when I’m writing I want to write, so that the most basic person who do not know about the topic will fully understand.

Table 4.7

<table>
<thead>
<tr>
<th></th>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
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<tr>
<td>Strongly agree</td>
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<td>1.0</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Neutral</td>
<td>6</td>
<td>6.0</td>
<td>66.7</td>
<td>66.7</td>
<td>77.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>2.0</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

For this item, there was no strong feeling either way, with more than 66% indicating a “neutral” response. However, the interviews showed to be a little more favorable. For the interview, the item was rephrased into the question: “Do you feel you are encouraged to ask questions in this social network?” A few of the verbatim comments from the interviews on this topic are as follows:

• Yes.
• Yes. I found that that’s a good way to really engage with other people or get feedback of different aspects.

• Yes. I mean, if there’s something that keeps my interest, I definitely feel encouraged to interact or add on to what that person is saying.

• Yes. And I make an effort to ask questions because I’m trying to put questions out there, such as I’m looking for a source or a person’s feedback in particular, or I will ask the questions. I’m going to be tweeting that I’m interested in because I’m realizing the kind of feedback that I appreciate is the kind of maybe I’m not doing a very good job providing. So, I’m making a very conscious effort to do that.

Table 4.8

Learning Item 8: I feel reluctant to speak openly in this social network.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td>44.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>88.9</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this case, over 55% disagree or strongly disagree with this statement. For the interviews, this statement was rephrased into the question “Do you feel reluctant to speak openly in this social network?” One of the verbatim comments from the interviews on this topic is included below:
• I mean, yes, but you have to kind of think your tweets thorough and be articulate, and I do not over tweet. So I definitely like to use discretion.

Table 4.9

Learning Item 9: I feel like participating in this social network results in only modest learning.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
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<td>33.3</td>
<td>33.3</td>
<td>44.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>55.5</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td>88.9</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
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<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

This item is split in that 44% either agree or strongly agree and 44% disagree or strongly disagree. For the interviews, this statement was rephrased to ask “Do you feel that participating in this social network results in learning?” Through the samples of the verbatim comments below, it’s clear that those who were interviewed lean more toward the belief that there is learning taking place through participation in the social network. A few of the comments are shown below:

• Oh, no question yeah, absolutely.

• Yes, I definitely have.
Definitely, The very first thing I do is go to the Discover part of my Twitter feed and see what my Twitter followers are talking about, and so that’s my launching point every day to find out what’s trending and what the big news of the day is.

So yeah, I mean I think it’s a great way to learn and it’s a great approach in finding out things quicker. And then obviously, the next step would be to verify.

**Research Question Two**

To what extent does the use of social networking sites in the workplace create a community of practice?

To attempt to answer this question, the items in the survey that assessed the respondents’ perception of connectedness were analyzed. A feeling of a shared connection and belonging is an important component of a community of practice (Wenger 1998, p. 125-126). Therefore, it is believed that the responses to these items will provide evidence to illustrate the extent to which the use of social networking sites contribute to the development of a community of practice. The survey included ten items that focused on this topic. A summary of the means of these items is found in the Figure 4.6 below:
Table 4.10

*Connectedness Item 1: I feel that members of this social network care about each other.*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>22.2</td>
</tr>
<tr>
<td>Neutral</td>
<td>5</td>
<td>55.6</td>
<td>55.6</td>
<td>77.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>
In this item, there is ambivalence, as more than 55% indicated a neutral response to this statement, with the balance equal between disagreement (22.5%) and a combination of agreement and strong agreement (22.2%). For the interviews, this statement was rephrased as the question “Do you feel members of this social network care about each other?” The responses from the interviews were more positive than the survey, and a few of the verbatim comments are included below:

- Yes, definitely. The beauty of Twitter for a reporter is that it’s engaging community. It’s all about dialogue, talking with others, and sharing information.
- Not on a personal level necessarily.
- On Facebook yes because Facebook is a much more personal way of talking to folks and so they’re on—you’re controlling more who is your friend obviously on Facebook. So, the answer is yes on Facebook. Not as much on Twitter because Twitter is a much more open kind of environment.
- I don’t think that they care about each other because they’re members of the Twitter community. I think that human elements of care are evident in Twitter that would be in any other situation.
Table 4.11

*Connectedness Item 2: I feel connected to others in this social network.*

<table>
<thead>
<tr>
<th></th>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
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<td></td>
<td>44.4</td>
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<tr>
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<td>2</td>
<td>22.2</td>
<td></td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

There is very strong agreement with this item, with 77.7% agreeing or strongly agreeing with it. In fact, as seen in Figure 4.6, it is the highest rated item of the ten that focus on connectedness. For the purposes of the interview, the statement was rephrased as “Do you feel connected to others in this social network?” A few of the verbatim comments are shown below:

- Yes.

- Yes, maybe people that I know fairly well in my workplace, but also the people who I may work with or who I’ve never met who are connected with *USA Today*. So, it’s a good way to reach out to them.

- I would say particularly with the Books account, it really helps connect the publishing industry and there’s a lot of interaction between publishing houses, authors, readers, and new sources that cover books, and there’s a lot of back and forth, and people commenting and whatnot.

- Yes.

These comments are of particular interest as they reference discourse and the exchanges with people that have never met in person, both elements of virtual communities of practice.
Table 4.12

Connectedness Item 3: I do not feel a spirit of community in this social network.

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
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<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Neutral</td>
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<td>44.4</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td>77.8</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this item, over half of the respondents indicated disagreement with this statement, indicating that they do indeed feel a spirit of community in the network. As it was reversed in its wording, for the interviews the question was rephrased as “Do you feel a spirit of community in this network?” A few of the verbatim responses are included below, and they indicate general support for this statement as well.

- Yes.
- Yes.
- A community, I don’t know if community is the right word. I think that network is a better word.
Table 4.13

*Connectedness Item 4: I feel like this social network is like a family.*

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>2</td>
<td>2.2</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>6</td>
<td>66.7</td>
<td>75.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>8</td>
<td>88.9</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>11.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

There is not much evidence to support this item, with more than two-thirds of the respondents disagreeing with it. The statement was rephrased for the interviews to ask “Do you feel this social network is like a family?” Those interviewed all indicated that they did not feel that the social network met their definition of a family.

Table 4.14

*Connectedness Item 5: I feel isolated in this social network.*

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neutral</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>22.2</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>55.6</td>
<td>55.6</td>
<td>77.8</td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this item, it can be seen that the vast majority disagree with this statement, with over 77% indicating a lack of support of this statement. For the interviews, the statement was rephrased as “Do you feel isolated in this social network?” The
responses to this question from those interviews all indicated that there was not a feeling of isolation felt in the social network. This is important to recognize as one of the criteria of the existence of a community of practice is a feeling of connection to others. A lack of isolation shows evidence of this connection.

Table 4.15

Connectedness Item 6. I trust others in this social network.

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
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<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>33.3</td>
</tr>
<tr>
<td>Neutral</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>77.8</td>
</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

There are mixed feelings about this statement, with about a third in agreement, a little over 20% disagreeing and over 40% neutral. For the purposes of the interviews, the statement was rephrased as “Do you trust others in this social network?” There were some mixed reactions to this question in the interviews as well, as shown in some of the verbatim responses below:

- Yes.
- Yes.
- No. Definitely, if someone posts a statement or fact without a link, I would not take that as fact.
Table 4.16

*Connectedness Item 7: I feel that I can rely on others in this social network.*

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
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<td>11.1</td>
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<tr>
<td>Neutral</td>
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<td>55.6</td>
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</tr>
<tr>
<td>Disagree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>

In this item, there was little evidence of agreement or disagreement, with most of the respondents rating this neutrally. For the interview, the statement was rephrased as the question “Do you feel you can rely on others in this social network?” There was no real substantiation of either agreement or disagreement in the interviews.

Table 4.17

*Connectedness Item 8: I feel that other members of this social network depend on me.*

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>11.1</td>
<td>12.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Agree</td>
<td>1</td>
<td>11.1</td>
<td>12.5</td>
<td>25.0</td>
</tr>
<tr>
<td>Neutral</td>
<td>1</td>
<td>11.1</td>
<td>12.5</td>
<td>37.5</td>
</tr>
<tr>
<td>Disagree</td>
<td>5</td>
<td>55.6</td>
<td>62.5</td>
<td>100.0</td>
</tr>
</tbody>
</table>

This item indicates that most of the respondents disagreed with this. The statement was rephrased for the interview as “Do you feel that other members of
this social network depend on you?” The answers to this question reflected a similar range as shown in the survey results.

Table 4.18

*Connectedness Item 9: I feel uncertain about others in this social network.*

<table>
<thead>
<tr>
<th></th>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agree</td>
<td>4</td>
<td>44.4</td>
<td>44.4</td>
<td>44.4</td>
<td>44.4</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td>77.8</td>
<td></td>
</tr>
<tr>
<td>Disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>88.9</td>
<td></td>
</tr>
<tr>
<td>Strongly disagree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>

The respondents were generally supportive of this statement, with over 44% in agreement. The statement was rephrased for the interviews as “Do you feel uncertain about others in this social network?” There was one interesting verbatim response to this question, which is shared below.

- I guess the only hesitation is not so much in the people that I’m engaging with but sort of the medium. I know that Twitter is public, so I just police myself accordingly. On Facebook which is more somewhat more private, I still police myself in the event that it’s not as private as I think it might be. I’m thinking whenever I post anything, it’s always with the mindset that whatever I say can become public in a hurry.
Table 4.19

*Connectedness Item 10: I feel confident that others in this social network will support me.*

<table>
<thead>
<tr>
<th></th>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly agree</td>
<td>1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
<td>11.1</td>
</tr>
<tr>
<td>Agree</td>
<td>2</td>
<td>22.2</td>
<td>22.2</td>
<td>33.3</td>
<td>66.7</td>
</tr>
<tr>
<td>Neutral</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td></td>
<td>100.0</td>
</tr>
<tr>
<td>Disagree</td>
<td>3</td>
<td>33.3</td>
<td>33.3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The respondents were split on this question as well, with a third disagreeing and another third agreeing or strongly agreeing. The statement was rephrased for the interview to ask “Do you feel confident that others in this social network will support you?” Two of the verbatim responses indicate a similar mixed reaction.

- Yes, very supportive, because it’s like global universe. If you’re doing something, people will re-tweet that, they try to support you and vice versa.

- I don’t know. Again, I think that for me at least, Twitter is very content driven and a little bit separate from the person that puts that information out there.

A follow-up question asked the respondents in both the survey and the interviews to think of a specific example of how their use of social media in the workplace led to a feeling of connectedness. In the survey, an open-ended text box
was provided. Some were very positive about their experiences with social media and the contribution to connectedness:

- I felt more a part of the organization when editors promoted my stories.
- I like re-tweeting my coworkers’ stories and it’s a nice show of support when someone else tweets one of my stories or comments.
- It’s easier to remember co-workers’ roles, names and how they can help me/how I can help them.
- I’m a freelancer with a fashion/style blog, so I rely on Facebook to keep me up to date on what my fellow bloggers are up to. I recently discovered on my feed that a fellow local blogger got a gig at Google, I would never have found out otherwise—or it would have taken a while, especially since I have a newborn and don’t get out much these days!

Other respondents were much more negative about the use of social media and its impact on feelings of connectedness in the workplace.

- Having been attacked by others tweets, I don’t feel connected. I feel suspicious.
- I don’t feel like Twitter is a community. I feel like it’s a place that people put information and commentary. I do not use Twitter to interact with other people.

As stated earlier, Wenger (1998, p. 125-126) delineated fourteen characteristics that differentiate a community of practice from other kinds of groups. It is now
appropriate to determine which, if any, of these characteristics are supported by the findings of this research.

The characteristics that support the existence of a community of practice through evidence from this research include:

- Sustained mutual relationships
- Shared ways of engaging in doing things together
- The rapid flow of information and propagation of innovation
- Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process
- Local lore, shared stories, inside jokes, knowing laughter, and
- Jargon and shortcuts to communication as well as the ease of producing new ones. The characteristics that there is little to no evidence from this research to support the existence of a community of practice are as follows:

- Very quick setup of a problem to be discussed
- Substantial overlap in participants’ descriptions of who belongs
- Knowing what others know, what they can do, and how they can contribute to an enterprise
- Mutually defining identities
- The ability to assess the appropriateness of actions and products
- Specific tools, representations and other artifacts
- Certain styles recognized as displaying membership, and
- A shared discourse reflecting a certain perspective on the world.
Social Media Analysis Results. From the six weeks of study of the Twitter posts made by the participants in this part of the research, it is evident how much of the activity on Twitter is mainly one-way sharing of information. 1,124 items were posted by the nine participants over that time period. In order to collect a random sample, the researcher collated the items and selected one in four posts, for a total of 281. Each was categorized by its main content. The categories used were modeled after a similar study that analyzed social media posts as a means of investigating its impact on the development of communities of practice in a professional setting (Davis, 2010). The categories are as follows:

- Discussion: Interaction between two or more people through posts on the site.
- Marketing/promotion: A post that focuses on something that the writer wants the reader to do or engage with.
- Promoting colleague’s work: A post that celebrates or draws attention to something that a co-worker has done, or in this case, written.
- Request information: A post that asks the audience for something or about something.
- Retweet: A retweet simply forwards a post from someone else that the poster found interesting or worthy of sharing.
- Sharing information: The poster is making a statement about a topic. It is not part of a discussion nor is it asking for any response.
In order to ensure that the categories were chosen appropriately by the author, a survey was created and shared with several colleagues who are known to be frequent users of social media and as a result, would have familiarity with the concept of Twitter and how it operates. In the survey, a sample post was selected from the “discussion,” “marketing/promotional,” “promoting a colleague’s work,” “request information,” and “sharing information” as they were categorized by the author. The “retweet” category was not included as these are easily identifiable through their inclusion of the “RT” symbol, and therefore it was not necessary to test the validity of these designations. A sample of the survey can be found in Appendix D. This researcher’s responses aligned with the impressions of the respondents in the sample 35% of the time. The bulk of the discrepancy seemed to fall between the “discussion” and the “sharing information” categories. In order to not sway the participants’ responses, no specific meanings of the categories were given. As a result, posts that the respondents found as “discussion” were in reality simply “sharing information” since there was not a designated recipient of the post and therefore, no “discussion” happening. In retrospect, providing short definitions of each category to help the survey respondents would have likely resulted in closer alignment.

Figure 4.7 illustrates the breakdown of the categorization of the posts. As stated above, the bulk of the posts in the sample were simply sharing information. The rest of the categories were roughly equal, within a few percentage points of one another.
Examples of some of the posts in the different categories are as follows:

**Discussion:**

- So impressed with @martharaddatz moderating the VP debate
  
  #whorunstheworld  #girlpower

- Say what you will about who’s winning, this is a way better debate than last week’s. More substance, crisper, better moderated.

- Martha Raddatz is rocking this.

**Marketing/promotion:**

- Don’t forget to enter to win an IPL hair vanquishing device!
  
  http://ow.ly/egf70  All I want is for everyone to like me.
• @DCWineWeek starts today through the 20th. Check out http://www.dcwineweek.com for the full schedule. #DClife

• I’m addicted to @FamilyFeud now that @IAMSteveHarvey is the host. My daily dose of comedy.

Promoting colleague’s work:

• Fascinating take by the great @Dchinni on who’s up & who’s down on the presidential registration front: http://on.wsj.com/QW5N65 #election2012

• Must-read story @tomcatan Painkillers are behind 15,000 US overdose deaths a year—more than from all illegal drugs http://on.wsj.com/PfuKee

• My @usatoday colleague @dvergano on PBS talking meningitis outbreak right now. Rock!

Request information:

• Is anyone else’s twitter time about an hour off??

• Hi Twitter friends. So: how much would you estimate an original iron clawfoot tub goes for? thanks!

• Happy Thursday, book lovers! What are you reading? Check out our best-selling books list: http://books.usatoday.com/listlindex/

Retweet:

• RT @raynardjohnson: Is #BigBird this election’s Joe the Plumber?
  @goldietaylor @rolandsmartin

• I seriously love all the articles @BrentSum tweets about. RT 10 awesome ways to make yourself look (and be) smarter. http://lifehac.kr/fUhUkV
• !!! RT @MercyC: Never a good idea to eat boiled eggs in a small room w/ limited air circulation. :-/

Sharing Information:

• This morning the National Zoo will reveal what killed the 6-day-old giant panda cub. http://apne.ws/SRK9vX from @AP
• It is so hard to take the Orioles seriously with that goofy cartoon bird on their caps.
• Coffee with newspaper exec, met 2 Pulitzer Prize winners, free wine and free food #greatday

As can be seen through the analysis of the sample, very little discussion was found to be taking place. This does not support the idea that a social networking site like Twitter acts as a channel for significant interactions between co-workers. It does point to the fact that there is a great deal of information being shared with those who are followers of these individuals, which provides opportunities for those people to glean knowledge that they may not have discovered otherwise.

Though there is strong support in evidence in this research of feelings of connectedness with the use of social media in the workplace, connectedness is not the only distinguishing characteristic of a community of practice. Therefore, though some of the criteria appear to be met, it cannot be said that the use of social networking sites leads to the development of a community of practice as defined by Wenger.
Research Question Three

What learning do members of these social networks experience through their participation in them?

To address this issue, the following question was asked in both the survey and the interviews: Considering your experiences with this social media tool in the workplace, can you describe a situation in which you gained knowledge that influenced your work as a result of your engagement? Please provide details on what happened and how the knowledge gained affected your work.

The responses to this question were mixed. Some indicated very specific learning, such as:

- For a political reporter, Twitter provides extraordinary insights into what’s going on. It is basically a vast sharing of intelligence that never existed before.
- I have found links to good news articles posted by colleagues whom I respect.
- I was able to report on a protest where I wasn’t present by finding links to live-streams of the event on Twitter.
- When I was covering Congress, I often learned through Twitter of meetings that were happening. I was able to cover those meetings simply because Twitter had informed me they were going on!
- I’ve found experts, vendors, awesome professional advice and even my current job through LinkedIn.
Others were less enthusiastic:

- I rarely use social media for work purposes.

- I see what some other people are writing. But I don’t actually like being connected to “work” people on Facebook.

- I learn about what others are thinking on Twitter. I get news here. But I also have been attacked personally and don’t tweet myself because information is easily misconstrued.

It can be concluded that the use of social networking sites in the workplace can have a significant impact on the work of those who engage with it. However, its use as a means of personal communication can interfere with it influencing true performance improvement.
Chapter 5

Summary, Conclusions and Recommendations

Purpose of Study

It is the purpose of this study to determine how three specific social networking sites, Facebook, LinkedIn and Twitter, are being used in the workplace in order to help organizations understand how the use of these tools can contribute to the development of functional communities of practice that can provide an outlet for communication, sharing of knowledge and informal learning. This chapter provides a discussion of the findings of the study, draws conclusions and makes recommendations for further research.

Summary, Findings and Conclusions Related to Research Question One

Q1: To what extent does the use of social networking sites in the workplace foster informal learning?

Informal learning can be seen as an important component to new learning environments. With regard to its relationship to social media and social networking sites, it can be said that microblogging, through a tool like Twitter, can foster process-oriented learning due to the fact that it can allow continuous and transparent communication from the learner to the mentor. Posting thoughts and “information pieces” via microblogging make it possible for users to participate with others in their thinking, and due to its transparency, teachers can view and intervene if necessary. A
research study conducted within indicated that informal learning did occur through microblogging. (Ebner et al., 2009).

It is evident through the study findings that there is a connection between the use of social networking in the workplace and informal learning. Respondents indicated that as a result of their use of social networking sites in the workplace, they did gain knowledge that they would not have otherwise. Examples such as serendipitous discoveries of items of professional interest were shared in the interviews and through the open ended questions of the survey. Twitter is referred to specifically as a tool through which learning took place. Therefore, it can be said that the use of social networking sites in the workplace fosters informal learning to a moderate extent.

Those involved in human resource development for organizations can infer from these findings that it would be beneficial to incorporate social networking sites into their collection of channels through which information can be disseminated through to their employees. The creation of a Twitter account specifically for professional development within an organization can be considered as a strategic choice for the dissemination of content. It can then be promoted as a channel through which valuable, easily consumable information can be shared. However, the key words in this are “valuable” and “easily consumable.” If the content being shared is not considered to be of value, or if it consists of links to large volumes of text, it will be difficult to build a following. It is also important to recognize the balance necessary between focusing too much on dissemination of information at the expense of building community.
Summary, Findings and Conclusions Related to Research Question Two

Q2: To what extent does the use of social networking sites in the workplace create a community of practice?

As was stated earlier, communities of practice, including the virtual version, play a pivotal role in the enterprise learning strategies of numerous multinational corporations, including Caterpillar, Chevron, Ford, IBM, Raytheon and Xerox (Ardichvili, 2008). Organizations that sponsor or support communities of practices benefit from the synergies that are created and the problem-solving that occurs to help the organization operate with more efficiency. Considering the evolution of the workplace with the advent of more and more technologies, it is not inconceivable to consider that virtual learning spaces/places may replace training rooms; social technologies may replace “training technologies;” and “activities” may replace “course” in terms of the unit of training (Hart, 2011).

A virtual community of practice need not be connected to a preexisting group. It can form organically around a collective interest, as have many Web-based communities. This was the case with the research that was conducted here. Though those who were interviewed were all part of the same organization, those who responded to the survey were from a variety of publications. As noted, some were very positive about their experiences with social media and how it contributed to their feelings of being in a community:

- I felt more a part of the organization when editors promoted my stories.
• I like retweeting my coworkers’ stories and it’s a nice show of support when someone else tweets one of my stories or comments.
• It’s easier to remember co-workers’ roles, names and how they can help me/how I can help them.
• I’m a freelancer with a fashion/style blog, so I rely on Facebook to keep me up to date on what my fellow bloggers are up to. I recently discovered on my feed that a fellow local blogger got a gig at Google, I would never have found out otherwise—or it would have taken a while, especially since I have a newborn and don’t get out much these days!

Other respondents were much more negative about the use of social media and its impact on feelings of connectedness in the workplace.

• Having been attacked by others tweets, I don’t feel connected. I feel suspicious.
• I don’t feel like Twitter is a community. I feel like it’s a place that people put information and commentary. I do not use Twitter to interact with other people.

As stated earlier, Wenger (1998, p. 125-126) delineated fourteen characteristics that differentiate a community of practice from other kinds of groups. Through analyzing the results of the surveys, the interviews and the social media posts, it was evident that some of the characteristics of communities of practice were met, but others were not.
In spite of the evidence of connectedness that were acknowledged by those who participate in social media networks in the workplace, the sample from the social media posts showed very little discussion was found to be taking place. Instead, the posts were mostly one-way sharing of information, not discourse. This does not support the idea that a social networking site like Twitter acts as a channel for significant interactions between co-workers. It does point to the fact that there is a great deal of information being shared with those who are followers of these individuals, which provide opportunities for those people to glean information that they may not have known about otherwise.

As a result, it cannot be said that the use of social networking sites in the workplace creates a community of practice, at least according to Wenger’s definition; but it can be extrapolated that the use of social networking sites in the workplace contributes to the development of one, as several of the criteria were met. It can be summarized by saying that the use of social networking in the workplace creates a community of practice to an extent.

**Summary, Findings and Conclusions Related to Research Question Three**

Q3: What learning do members of these social networks experience through their participation in them?

It can be concluded that the use of social networking sites in the workplace can have a significant impact on the work of those who engage with it. As learned through Research Question 1, learning is taking place as the result of participation in social networking sites. However, the types of learning do not, from this research, appear to
be transformative. The examples of learning that were given to address this question related more toward the gaining of information and introduction to other sources of knowledge that the respondent would not have otherwise known, as opposed to substantive or deeper learning around organizational issues or job-related. It is possible that the function that social networking sites perform as a channel for social exchange overshadows its place as a channel for true performance improvement. The responses to this question were mixed. Some indicated very specific learning, such as:

- For a political reporter, Twitter provides extraordinary insights into what’s going on. It is basically a vast sharing of intelligence that never existed before.
- I have found links to good news articles posted by colleagues whom I respect.
- I was able to report on a protest where I wasn’t present by finding links to live-streams of the event on Twitter.
- When I was covering Congress, I often learned through Twitter of meetings that were happening. I was able to cover those meetings simply because Twitter had informed me they were going on!
- I’ve found experts, vendors, awesome professional advice and even my current job through LinkedIn.

Others were less positive:

- I rarely use social media for work purposes.
• I see what some other people are writing. But I don’t actually like being
connected to “work” people on Facebook.

• I learn about what others are thinking on Twitter. I get news here. But I also
have been attacked personally and don’t tweet myself because information
is easily misconstrued.

General Conclusions

Some learning networks manifest features of communities of practice, but
others do not strongly build identity and meaning (Boud, 2009). The results of this
indicate that while the social networks featured in this research foster the development
of many of the indicators of a community of practice, there are several that are not,
and as a result, it can be said that social networking sites contribute the development of
a community of practice to an extent but not completely.

Social networking has blurred the boundaries among work, play, and learning.
Many workplace learning and performance professionals find that building this
network and having this sustained ongoing conversation allows them to discuss
significant workplace issues they face in a way that’s not easy to duplicate in face to-
face interaction (Karrer, 2007). It shows that consideration of the use of social
networking sites in the workplace is something that organization development
professionals need to begin to think about, if they are not already. Its incorporation
into organizational learning and development initiatives can be a valuable addition to
other more traditional forms of training and performance improvement processes.
Recommendations for Further Research

Due to the relative newness of the use of social media in the workplace, there is currently a comparative dearth of research into the effectiveness or utility of these resources on the job. There is opportunity for research across a variety of social media platforms in a number of different industries and types of organizations, from business to non-profit to government and even military operations. It would be valuable to have an understanding of which types of organizations respond most favorably to the use of these tools in their work so as to determine the common features among them. This would allow similar organizations to perhaps be less risk-averse about incorporating these into their own structures. It would also be valuable to gain an understanding as to whether an internal network such as Beehive, the IBM social networking site developed solely for IBM employees, would perform better as a means of fostering learning and the development of communities of practice than open networks such as Facebook and Twitter. Though part of their appeal, perhaps the openness of these networks is an inhibitor for use in the workplace.

This research provided unique insight into the use of social media by one segment of employees within a single industry. In fact, this industry was selected to study due to the perception that it was ahead of many others in terms of its use of social media tools in the workplace. Due to the small response size, its results are not generalizable to a larger population. Therefore, additional research with a larger response pool would be beneficial to determine if similar findings would be the result in another population, or a different industry. In the gap between the time that this research began and concluded, many other industries have caught up, and perhaps even
surpassed, the industry studied here in their utilization of social media at work and could potentially provide a more detailed picture of the impact and influence of the use of these tools in the workplace. Also, as the sample size for this study was too small to do any inferential statistical analysis, it would also be of interest with a larger pool to be able to apply methods such as t-tests to make comparisons between the users of different tools for different purposes. It might be valuable to understand the distinctions, for example, between Facebook users versus Twitter users, and determine what, if any, differences there are in the outcomes of these as channels for informal learning or the development of communities of practice. It may also be of interest to determine how international organizations are able to execute the use of these tools for informal learning as revealing ignorance in a public forum is something that is not accepted in some cultures (Ardichvili, 2008).

As the bulk of the respondents focused their answers and feedback around Twitter, it would be worthwhile to explore the subject matter more closely around Facebook and LinkedIn, especially considering LinkedIn’s positioning as a tool for the workplace.

The social media post analysis showed that there did not appear to be significant discourse in the posts of the participants. In fact, the bulk of the posts were categorized as simply sharing information. With the understanding that engagement requires interaction, it would appear that this would fall short. However, with the evidence shared in the verbatim comments from the subject interviews that information from Twitter was often passively received, but still very valuable, perhaps the concept of engagement with the use of social media should be reevaluated. There appears to be an opportunity to
study whether the passive absorption of information through social media, without necessarily responding to or interacting with the post, is still a worthwhile consequence of the use of these tools in the workplace.

Social media tools are becoming more and more commonplace every day in many aspects of life in the 21st century. As computing pioneer Alan Kay says, “technology is anything that wasn’t around when you were born” (Greelish, 2013), it would be of interest to conduct a longitudinal study that focuses on the use of social networking sites in the workplace over a long period of time and determine the shift of when these tools become more commonplace as methods of informal learning and community building and less of a novelty. As was discussed earlier, technology that we see now as ubiquitous and uninteresting, such as instant messaging and e-mail, were at one time considered just as disruptive as these tools are now.

**Recommendations for Organizations**

The topic of social media as a channel through which communities of practice and informal learning can develop became of interest to me during my early tenure in my doctoral program when I enrolled in an elective course that was being piloted for the first time: CI 597C: Disruptive Technologies in Teaching and Learning, offered through Penn State College of Education’s Curriculum and Instruction department. It was in this course that a variety of new technologies were evaluated for their utility in teaching and learning, including wikis, podcasts, blogs and social networking sites like Twitter. The course was controversial for its approach, and attracted some attention in educational media (Young, 2009).
As the students in the class learned about these tools, the students, including me, began to experiment with them as well. It was through the use of Twitter that it began to be evident to me what a powerful tool it was in bringing people together, in developing community where there was once none, and sharing information with one another that would have never happened otherwise. The class, with an enrollment of about 20, met just once a week. The students came from a variety of disciplines and were in a variety of stages of life, some very seasoned, some fresh out of undergraduate study. It was interesting to witness how Twitter brought the bulk of the students in the class together, not just as a tool to use for collaboration during class, but outside of class as well. Twitter became a resource for people to share more personal things about themselves, which in turn allowed others to comment and respond, or ignore if they chose. In spite of the fact that the class met just weekly, the use of these tools, specifically Twitter, in the interim allowed for relationships and friendships to form. Learning from one another took place in the course through these tools, as students would post questions or ask for clarification on topics via Twitter and fellow students, and sometimes the instructors, would respond. One student posted on Twitter one evening that he had to turn in his master’s thesis the following day and desperately needed some editing help. Three fellow students responded within minutes and he was able to share his document with them for feedback immediately. Another student was called out of town during the semester as her father had fallen ill. Through Twitter, she kept her classmates up to date on his progress, and, regrettably, his death. These private struggles, both academic and personal, may have never gone beyond the thoughts of these two individuals had a social networking site like Twitter not been
available to them to engage with and seek help, and solace, from the community that they had built.

In addition to the experiences I had with the use of social media in a classroom, I also had the opportunity to observe how the use of a different social media tool, an intranet, was launched and received within an organization within which I worked. Much like Beehive, the internal social media tool created by IBM, this intranet was meant as a means through which employees of this large organization with several hundred employees could engage, interact, and get to know one another. Months of planning and thousands of dollars of investment and hundreds of hours of labor were spent in order to build the site. A very creative and engaging launch initiative for the project was planned and executed, including dedicating a work day in which all employees of the organization would spend time understanding the functionality of the tool and learn how to create an individual profile. The employee profiles were meant to not only provide basic information about each employee, but also to allow for the posting of updates, very similar to Facebook, that would encourage other staff to become aware of the projects of other employees. This was intended to reduce duplication of labor, create efficiencies, and provide opportunities for learning. For example, if an employee needed an expert in a particular skill or topic, the intention was that the intranet could be used to connect to that individual by searching employee profiles.

From the start, there was a small pocket of early adopters who created robust profiles of themselves and began sharing with one another. Others joined in time. However, after a while it became evident that adoption of the intranet was slow. A review of participants revealed that senior leadership was not among those who had built
profiles and there was concern that if the leadership did not feel it was worth the time to participate, then perhaps it was not a good use of the time of the rank and file to do so either. This is borne out in research as well (Bughin et al., 2009). Organizations that recognize the value of the use of social media in the workplace as a means of building community and opportunities for learning need to ensure that the senior leadership model the behavior. If employees see that their boss, or their boss’s boss, is reaching out through social media to engage and share and help others learn, they will understand that it is considered worth the time and effort in their organization to do the same.

As stated previously, perhaps the most widely recognized benefit of a community of practice is its ability to allow for the generation and dissemination of the elusive tacit knowledge, that is, knowledge which is difficult to share via conventional methods because it is mostly intuitive and tied into a specific context (Ardichvili, 2008). Therefore, the fostering and support of the development of a community of practice can be a valuable tactic for performance improvement professionals to embrace.

Even though this research did not definitively prove that social networking sites fully satisfy the criteria of being a community of practice, it is clear to me that it can have a transformative effect on building community and learning, both in the classroom, and in the workplace. Ultimately, organizations that are considering their approach to the use of social media in the workplace need to consider the value of these tools in terms of what is gained against what is potentially at risk. This research has shown evidence of positive influence in terms of connectedness and learning in one
particular industry. Further research into others will help illustrate whether this is the case on a broader scale.

As Wenger (1998) states, learning can’t be designed: it can only be designed for. This makes for a challenging paradox for human resource development. Its charge is to make sure its employees are properly trained with as much knowledge as possible to do their jobs to the best of their abilities, and ultimately contribute to the success of the organization. However, not all methods of professional development are right for every employee, and not all opportunities are taken advantage of by those who may benefit from them. In addition, organization development professionals cannot be everywhere at once, nor can they be the only source of learning within an organization. Providing support for and adopting the use of social media in the workplace may be a means of creating and fostering a channel through which informal learning can happen and communities can build, when it may not have otherwise taken place.


Appendix A

Permission Request Letter to Use the Classroom Community Scale Instrument for Research Purposes

Good afternoon,

Yes, you may use the instrument with the modification you suggest. Please make sure to cite the following article in any report you write:


Also, since you are altering the instrument you should check validity and reliability of the altered instrument.

Best wishes,
Fred

Alfred P. Rovai, Ph.D.
Associate Vice President for Academic Affairs
Regent University
Phone: 757.352.4861

From: John Dolan [mailto:jdolan@la.psu.edu]
Sent: Monday, November 21, 2011 12:25 PM
To: Alfred Rovai
Subject: Permission to use Classroom Community

Dr. Rovai: I hope this email finds you well. I am a doctoral candidate in organization development at Penn State University and am writing to inquire about the Classroom Community Scale instrument you developed. My proposal for my dissertation concerns the use of social media as a conduit to building communities of practice and foster informal learning within the workplace, and I believe your instrument would be an effective tool through which I could gain insights into this subject. I would disseminate the questionnaire via an online request to working professionals within one specific organization to inquire about their use of Facebook, Twitter and LinkedIn to build community. May I have your permission to use the tool for this purpose? To align this instrument with the purpose of my study a little more closely, I would propose to replace the term “course” with “social network” in the wording of several of the items.
I appreciate your consideration of this request, and look forward to hearing from you.

Best regards,

John Dolan
Director of Digital Media and Pedagogy
College of the Liberal Arts
Penn State University
814-867-4412
Twitter: dolanatpsu
Appendix B

Survey

Thank you for taking the time to complete this survey. I am a Penn State researcher and this study is being conducted for research purposes. In this questionnaire, you will be asked some questions about your use of social networking sites in the workplace, followed by some demographic questions. Your participation in this is voluntary and you may end your participation at any time. You may choose not to answer specific questions as well. Your responses to this questionnaire will be confidential.

Directions: In the following section of this questionnaire, you will see a series of statements concerning your membership in a social network that you currently use to engage with your professional colleagues, either Facebook, LinkedIn or Twitter. If you use more than one of these networks, choose the one you use the most. If you do not use any of these networks, please do not complete the survey. Otherwise, read each statement carefully and choose the response that comes closest to indicating how you feel about that particular social network. There are no correct or incorrect responses. If you neither agree nor disagree with a statement or are uncertain, select the neutral (N) area. Do not spend too much time on any one statement, but give the response that seems to describe how you feel. Please respond to all items.

Copyright acknowledgement: This survey is the Classroom Community Scale instrument developed and copyright by Alfred P. Rovai, PhD. The instrument has been modified and is used with permission.

1. Select the name of the social network that you will be referring to in the questions below:
   - Facebook
   - LinkedIn
   - Twitter

2. I feel that members of this social network care about each other.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

3. I feel that I am encouraged to ask questions in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

4. I feel connected to others in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
5. I feel that it is hard to get help from this social network when I have a question.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

6. I do not feel a spirit of community in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

7. I feel that I receive timely feedback from this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

8. I feel like this social network is like a family.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

9. I feel uneasy exposing gaps in my understanding in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
10. I feel isolated in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

11. I feel reluctant to speak openly in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

12. I trust others in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

13. I feel like participating in this social network results in only modest learning.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

14. I feel that I can rely on others in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
15. I feel that other members of this social network depend on me.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

16. I feel that by participating in this social network, I am given ample opportunities to learn.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

17. I feel uncertain about others in this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

18. I feel that my educational needs are not being met through this social network.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree

19. I feel confident that others in this social network will support me.
   - Strongly agree
   - Agree
   - Neutral
   - Disagree
   - Strongly disagree
20. I feel that this social network does not promote a desire to learn.

- Strongly agree
- Agree
- Neutral
- Disagree
- Strongly disagree

21. Considering your experiences with this social media tool in the workplace, can you describe a situation in which you gained knowledge that influenced your work as a result of your engagement? Please provide details on what happened and how the knowledge gained affected your work.

22. Reflecting on your experiences with this social media tool in the workplace, can you describe a situation in which your engagement with the tool impacted your feeling of connectedness to your organization? Please provide details on what happened.

23. One of the goals of this research is to gain an understanding of the outcomes of the use of Twitter, Facebook and LinkedIn by journalists in the workplace. To accomplish this, I would like to conduct a study that analyzes the posts on these three social networking sites over the course of a six week period. With your permission, I would like to ask to be included in your social networks as one of your Twitter “followers”, and/or as one of your Facebook friends and/or as a connection on LinkedIn. Over the course of six weeks, I will follow your posts in an attempt to gain insights into the themes of the use of Facebook, Twitter and LinkedIn as it relates to building community in the workplace. Through participating in this part of the study, your identity will be known only to me. Content from specific posts may be used in the narrative of the research results for illustrative purposes, but the identity of individuals authors will not be made known. If you would be willing to participate in this part of the study, please provide your name in the space below as it is registered on each of the sites and I will make the connection request through those channels. Thank you for your consideration.

Name: 
Twitter name: 
Facebook name: 
LinkedIn name: 
Appendix C

IRB Approval

Date: February 8, 2012
From: The Office for Research Protections - FW484, IRB00000134
        Stephanie L. Knott, Compliance Coordinator
To: John J. Dolan
Re: Determination of Exemption

IRB Protocol ID: 38622
Follow-up Date: December 5, 2016
Title of Protocol: The Impact of the Use of Social Media on the Development of Communities of Practice in the Workplace

The Office for Research Protections (ORP) has received and reviewed the above referenced submission application. It has been determined that your research is exempt from IRB initial and ongoing review, as currently described in the application. You may begin your research in the category within the federal regulations under which your research is exempt:

PSU Exempt Category (7): Research in which participant interaction is limited to providing a response to a non-physically invasive stimulus (e.g., reading/writing tasks, computer tasks, video games, viewing media, Internet searches, etc.) (i) if the research is social science based and falls under the purview of the PSU IRB, (ii) poses no more than minimal risk to participants, and (iii) does not include any of the following: federal funding or federal training grants, FDA regulated components, procedures that would fall under the purview of the Biomedical IRB, Sponsor or other contractual restrictions, clinical interventions (including clinical behavioral interventions), prisoners as subjects, children as subjects, the use of deception, receipt of an NIH issued Certificate of Confidentiality to protect identifiable research data.

NOTE: This category does not exist in the federal regulations under Title 45 Part 46 Subpart A 46.101(b) and is used solely by the Pennsylvania State University as per the terms of its Federal Wide Assurance with the government.

Given that the IRB is not involved in the initial and ongoing review of this research, it is the investigator's responsibility to review IRB Policy III, "Exempt Review Process and Determination," which outlines:

- What it means to be exempt and how determinations are made
- What changes to the research protocol are and are not required to be reported to the ORP
- Ongoing actions post-exemption determination including addressing problems and complaints, reporting closed research to the ORP and research audits
- What occurs at the time of follow-up

Please do not hesitate to contact the Office for Research Protections (ORP) if you have any questions or concerns. Thank you for your continued efforts in protecting human participants in research.
Appendix D

Twitter Categorization Survey

As someone who is well-versed in social media, please consider the content of the following tweets and select one category that you feel best describes its purpose from the choices given.

1. Um word Thanks!!! RT @HugginsRachel Great time interviewing @DCbigpappa of @DCLogCabin Republicans #goodread http://bit.ly/PqhLpW
   - Discussion
   - Promoting colleague's work
   - Marketing/promotional
   - Share information
   - Request information

2. Nice piece by @BuzzFeedBen, skewering the Unskewed Election: http://www.buzzfeed.com/bensmith/unskewed-election ... via @buzzfeed
   - Promoting colleague's work
   - Marketing/promotional
   - Discussion
   - Share information
   - Request information

3. Hi Twitter friends. So: how much would you estimate an original iron clawfoot tub goes for? thanks!
   - Share information
   - Promoting colleague's work
   - Discussion
   - Request information
   - Marketing/promotional

4. Don't forget to enter to win an IPL hair vanquishing device! http://ow.ly/egf7O All I want is for everyone to like me.
   - Discussion
   - Marketing/promotional
   - Share information
   - Promoting colleague's work
   - Request information
5. One person definitely hit a home run tonight: Jayson Werth in the bottom of the 9th. The shot that rocked DC.

- Marketing/promotional
- Discussion
- Share information
- Promoting colleague's work
- Request information
Vitae
JOHN J. DOLAN

EDUCATION:
PENNSYLVANIA STATE UNIVERSITY University Park, Pa.
Doctorate, Organization Development, August 2013

VANDERBILT UNIVERSITY Nashville, Tenn.
OWEN GRADUATE SCHOOL OF MANAGEMENT
Master of Business Administration, May 1996
Marketing Concentration/Services Emphasis

PENNSYLVANIA STATE UNIVERSITY University Park, Pa.
Bachelor of Arts, May 1989
Advertising Major

EXPERIENCE:
August 2002-Present PENNSYLVANIA STATE UNIVERSITY, University Park, Pa.
Director, Digital Media and Pedagogy, College of the Liberal Arts, August 2010-Present
Assistant Director, Continuing and Professional Education, October 2005-Present
Business Development Manager, Management Development, August 2003-September 2005
Instructor; 2002-Present

Online General Manager, centredaily.com and timesleader.com

Senior Product Manager, Washington Post. Newsweek Interactive (October 1999-December 2001)
Advertising Sales Representative (May 1998-September 1999)

Marketing Analyst, New Product Development

Inside Sales Representative- Classified and Recruitment (1990-1994)
Sales Assistant- Travel Advertising (1989-1990)

SELECTED PUBLICATIONS
Encyclopedia of Social Media and Politics; Contributing Author
SAGE Publications December 2013 (Pending)

Encyclopedia of Human Resources Management; Contributing Author
Pfeiffer April 2012

SELECTED AWARDS and RECOGNITION:
• Faculty Marshal, College of Communications Commencement, Summer 2011
• “Best Podcast” by Ragan’s Employee Communication Awards, 2011
• “Excellence in New Communications Award” from the Society of New Communications Research for “U Report” podcast; 2011