SOCIAL MEDIA CORRELATES OF ORGANIZATIONAL CLIMATE

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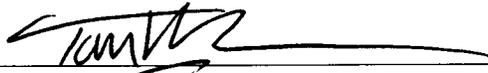Thomas A. Kelleher, Chairperson
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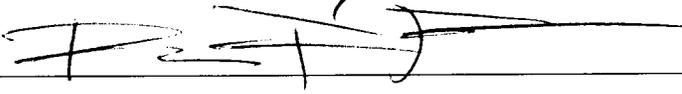Shuqiang Zhang
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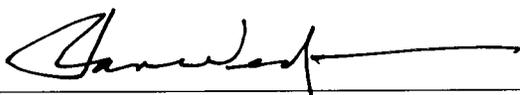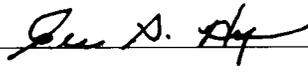
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DEDICATION

This document is dedicated to my wife, Evelyn Konou. It is also dedicated to the
memory of my father, Ralph I. Smith, Ph.D. who provided a standard of teaching and
research, as well as concern for social justice and the environment that I may one day
approach.

ACKNOWLEDGEMENT

ABSTRACT

   This research (1) gathered data from a sample of employees on their social media

practices and the social media policies of their employers and (2); investigated how

blogging and other social media added to a model of organizational climate that promotes

(a) knowledge sharing and cooperation, and (b) trust in peers and management. The

research integrated theories of social capital, trust, organizational climate, and knowledge

sharing to test claims that social media add value to firms in social dimensions above and

beyond knowledge sharing. Modest but statistically significant associations of social

media use, trustworthiness of employees and management, cooperation, and knowledge

sharing were found. A hypothesis that social media use would fit a specific model

incorporating organizational climate and knowledge sharing and combination had mixed

evidence supporting and not supporting it. The overwhelming effect of trust in

organizational climate was reaffirmed.

   Even employees who had little social media use recognized the potential benefits

from social media to build social capital in conjunction with work. The sample of

respondents came from a wide range of industries and not specifically from social media-

active firms so the findings may be robust. The research replicated a commitment-based

HR theory linked to increased productivity. It extended the theory by adding trust in top

management and social media use.

   Some evidence was found that the length of time in years that an organization has

had social media correlates with better organizational climate ratings. Stronger

correlations were found for trust in coworkers and trust in management with more recent social media actions.

This research also provides practical guidance to management concerning potential benefits for moderate employee use of social media at work. The benefits likely include increased trust, knowledge sharing and productivity.

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CHAPTER 1
INTRODUCTION

New social information technologies are augmenting business activity that has

been accelerated by globalization-enabling communication and computer technology.

These new software systems provide social support for intellectual collaboration. In

particular, blogs, wikis and social networking sites internal to organizations and on the

Internet are easy-to-use tools for structuring both knowledge and relationships. They

interact with the organizational climates of the firms involved and the personalities of

their employees. They are often promoted as ways to share information but their roles in

nurturing social behavior conducive of increased productivity and job satisfaction may be

equal justifications.

Software systems for sharing personal and business information have spread like

an epidemic in cyberspace as a generally positive innovation. Individuals and groups

share their thoughts, musings, pictures, new ideas, and more. In the early years of the

21st century business publications wrote as if blogs were the biggest development after

the Internet itself. Businesses better start paying attention to blogs, according to a

Business Week cover story (BusinessWeek, 2005). The theme was that customers are

blogging about firms and their competitors so businesses would neglect blogs at their

own peril. Other business publications gave similar advice, saying in effect, blogging is

more than a fad. *Time* magazine featured "You," the new Internet content creator of

blogs, videos and much more, as its Person of the Year on the cover of its January 1,

2007 edition.

Blogs and collaborative social media serve journalism, politics, and social groups actively, but in roles different than those inside firms. Both the roles and the inside – outside distinction are blurring. The set of software systems is rapidly evolving. When the research reported here was first outlined blogs were "hot." Now social networking sites such as Facebook (www.facebook.com) and the micro-blog Twitter (www.twitter.com) have come to the fore.

The essential features of both blog and wiki posting systems are ease of use and linking – building social networks. Users do not need to know html. The blog is a reverse chronological posting system. Each new posting goes on the front of the blog pushing the previous content down. Previous content cannot be changed except by the owner. Links recommended by the host to other sites are usually in sidebars, as well as in the text.

In contrast, wikis encourage commentary, editing, and structuring of previous entries up to and including deletion. Software facilitates rollback by the owner as required in the case of inappropriate content or deletion. Thus the wiki may be more appropriate for building documentation or organizing new knowledge. The archetype is Wikipedia (www.wikipedia.org).

Evolving commercial software products blur the distinctions between blogs, wikis and other online communities by combining features. Basic systems are free services on the Internet. Share-ware, open source software is also available. Moderately-priced hosting services provide more polished presentations, control and freedom from ads. Many systems provide for Really Simple Syndication (RSS) or ATOM feeds thus eliminating the need to periodically check a blog to keep up to date. Companies such as

Technorati and Google provide indexing and searching of the millions of blogs. The blogs and wikis are touted as alternatives to floods of email. Their range of content reflects the diversity of life and social systems on Earth.

Blogs and wikis are 'exploding' facilities on the Internet for both personal and corporate use in posting and sharing information (Dearstyne, 2005). A Pew Internet and American Life Project survey in mid 2006 projected that 8% of internet users, or about 12 million American adults, keep a blog and that 39 percent of internet users, or about 57 million American adults, read blogs (Lenhart & Fox, 2006). Late 2008 Pew survey data showed that 35% of U.S. Internet users had a profile on a social network, up from 8% in 2005(Lenhart, 2009). Counting social networking sites such as Facebook would include possibly hundreds of millions more. Although started in the 20th Century, only in the 21st Century have blogs been recognized as important innovations, frequently discussed in newspapers, business magazines, and professional journals. In May of 2006, Jackson and her colleagues (2007) found over 1000 articles about blogs and wikis in popular media. They are supplements to traditional news media uncovering facts and stories overlooked (Bruns, 2005; Dearstyne, 2005). Blood (2004) considered blogs as arguably a new medium, or more generally "participatory media." It is plausible to go further than Blood and claim that the medium – the sharing, collaboration, and risk-taking – is the message in McLuhan fashion. The essential elements are overwhelmingly social, facilitated by technical innovation.

Herring, et al. (2005) disagreed that blogs are a fundamentally new or revolutionary form of communication. They describe blogs as a "bridging genre" between static HTML pages and asynchronous computer-mediated communications as

represented by newsgroups. Collectively the current forms are called social media (SM) or social networks because of their linking, visibility, ease of updating and purpose of sharing or collaborating. This research does not make a sharp distinction between blogs and other social media.

Blogs and other social media appear to build both the socio-cultural and knowledge management (KM) resources of organizations. (Knowledge-focused blogs are also called k-logs.) Both corporate culture and some proprietary knowledge are hard to duplicate and thus are drivers of competitive advantage. Being both useful and easy to use, social media partially transform work into play.

This research focused on the use of social networking and collaborative Internet-enabled media, not just blogs and k-logs for organizational purposes. Moreover, companies that encourage blogging often (to what extent is an empirical question) encourage personal postings too. Estimating the extent of participation in both internal and external social media is a survey goal of this research. Already some firms apparently believe that blogs are easy to use and benefit the organization. Are there predictors or important consequences of such a belief? Contributing to a blog in a business setting has both cognitive and social functions. In the cognitive domain, social media are means of structuring information, making connections, and preventing cognitive overload. Contributing to a blog is an act of sharing and trusting which are social functions. Previous research concerning other collaboration technologies suggests that trust is an essential factor in use (Jarvenpaa & Leidner, 1999).

Dearstyne (2005) distinguished five classes of blogs. They are

1. Individual personal news and views. These are journals often to share views, experiences, photos, etc. with family, friends and associates.
2. News, commentary and journalism. Blogs are considered by many as legitimate news media.
3. Advertising, promotion, customer service and customer feedback. Tapping into customer views is a source of ideas and a way of building loyalty.
4. Business and professional insight. Dearstyne (2005) claimed these are the most influential business blogs, some being run by CEOs.
5. Internal information sharing and knowledge management (KM). Blogs are easily implemented on intranets most often inside the firewall. Variants may permit selective external access to key partners.

A more general classification according to Herring, et al. (2005) would be to follow a scheme attributed to Krishnamurthy that classified blogs into categories created by quadrants on dimensions of individual to community, and personal to topical. (See Table 2.1.)

Proponents say that blogs can help organizations change and adapt. Many believe that the social dimension of blogging is the most important contribution. As one business consultant (admitted self-serving, but widely quoted) stated:

> ". . . [T]he intelligence of the group is an emergent property of the social network that arises through group communication and collaboration. We all know that people's abilities and contributions are uneven: but in self-organizing societies, the members judge each other's contributions, and as a result, those who are judged to be better contributors build a reputation. In many social tools, this reputation is made tangible: in the Slashdot (http://slashdot.org) tech forum, for example it is called "karma." I like to call it "swarmth" – a measure of social network value based on the collective judgment of your peers.
> . . .
> "Social tools are the most recent advance [sic] in communication and collaboration technologies. But unlike earlier solutions like e-mail, IM, and groupware, this generation of software is intentionally shifting how we interact, not just as a side effect of managing content, or structuring

contexts for interaction. These tools are designed from the start to guide human behavior into new paths and patterns, to counter prevailing ways of interaction. I call these social tools: software intended to shape culture." (Boyd, 2003)

Groups and teams are well-studied in the social science literature because of their importance in work and because they are easily assembled in the lab. The purposes and compositions of groups vary widely. Despite the huge volume of studies, groups and meetings continue to be a subject of study due to the time and resources all enterprises invest in them. Group participation is, after all, the fundamental human activity, the pace and character of which has been accelerated and altered by the Internet. Ad hoc teams, often coordinated only remotely via communication systems and media, are critical to many modern, adaptive organizations (Jarvenpaa, Shaw, & Staples, 2004).

There is much about social media that should interest us as social scientists and research has become specialized as the many aspects are explored. These days groups increasingly gather, often virtually, more for the construction and sharing of knowledge rather than for the efficient production of physical goods. Social processes that build social capital facilitate the building of intellectual capital to be used for competitive advantage. The study of these social processes goes on in many research streams. This is not to suggest that social media are substitutes for formal education but rather that they are complements.

In terms of knowledge management, the firm can build its intellectual resources if members trust the company enough, i.e. feel secure enough in their positions, to explicitly contribute knowledge. Persons can improve their capabilities by being able to admit to desires and needs to fill in gaps in knowledge. In the social realm, self-

disclosure about interests such as family and hobbies, often builds useful familiarity and approachability. Companies can create effective expressions of desirable values such as openness to suggestions by allowing or providing social media access using company resources, be they time and/or the information technology, to support such activities.

With all the attention to and alleged potential of blogs in business for social and knowledge management purposes, the proposed research raises compound research questions: What are organizations actually doing with blogs and social media, and why, as both social and knowledge management tools? Do social media contribute to building trust in organizations?

A. Descriptive Objectives

The research has two main objectives: First to collect *descriptive* data on the extent of employee social media use. The second, is to test *explanatory* claims for beneficial social purposes, particularly trust-building social media in organizations. Compared to publicly-accessible social networks, relatively little has been published about internal corporate blogs and social media, either sponsored, or condoned. As a phenomenon being rapidly tested and adopted, there is an opportunity to gather basic facts about social media, and test theories of communication, trust, and organizational climate.

The descriptive objective leads to general research question one: What do respondents in various organizations report about company policy on social media use? What and when have various social media been adopted? Are employees encouraged to use social media? These basic questions provide context for the attitude measures. The research question was addressed by questionnaires that are in the Appendices.

This objective was to document organizations' blogging policies as seen by employees. Data were gathered on whether employees perceive that firms attached importance to social media for building relationships and sharing information. Data were collected on

- the forms (e.g., blog, wiki, social network)
- when introduced
- allowed contributors (internal, external customers and/or partners, both)
- formal and informal policies, both pro and con on social media contribution

The research touched on the character of discourse within the organization such as asking for help and challenging of assumptions. This part of the research performed the scientific function of documenting "what is" in the world and classifying the findings in useful ways.

Although the use of blogs was widely reported in the business press, many organizations and firms had yet to adopt in 2004, according to Cayzer (2004). More recently at the end of 2006, an Edelman employee communication survey found that nearly one-third of "senior communicators" in a convenience sample of companies and clients reported that their organizations hosted, authored or supported a blog for internal communication (Edelman, 2006). The response rate was 14%, resulting in 111 completed surveys of which 75 came from Fortune 500 companies. The data gathered show modest use of social media in a high percentage of firms. A more systematic survey in early 2008 showed that 16% (81) of the entire Fortune 500 had external-facing blogs (Barnes & Mattson, 2009).

B. Explanatory Objective

Research question two is: Are the perceived trustworthiness of coworkers and of top management aided by social media in fostering behavior for both social interaction and knowledge sharing activities? Is there any evidence of a virtuous circle?

The business role of trust in the use of social media as information-sharing and communication tools has not been fully explored. There is a need to critically evaluate the vendor claims of claims of knowledge-related benefits and (reportedly low) costs of these allegedly powerful social, collaborative tools. Much of the favorable research has been done in very large firms. Do the findings carry over to other firms?

Moreover, the vendors may be missing an important benefit beyond information sharing and innovation namely the social aspect. Thus this second general objective is to assess if and how social media contribute to, or are fostered by, an organizational climate encouraging sociality, knowledge sharing, and knowledge creation. The research examines the perceived power (or lack thereof) of social media to build organizational climates, relationships, and connections.

A key component of the explanatory objective is to explore the specific role of social media in building trust, trust in coworkers and the organizations' top management. There may be opportunities to explore the virtuous cycle hypothesis about trust building more trust (Sutanto, Phang, Kuan, Kankanhalli, & Tan, 2005). That research found some qualitative evidence of a virtuous circle. Similarly, the overall hypothesis of this research is that the ease of use and the availability of social media encourage behaviors that facilitate collaboration, job satisfaction, trust and knowledge sharing in firms.

The underlined third research question is about employee and management perception of social media as tools for building social capital. Do employees believe that social media develop links between those people inside and outside the immediate work group? Is it worth the effort?

In addition to thinking about classes and genres of blogs, the social media phenomenon within firms can be better understood from the perspective of building social and intellectual capital consistent with the theory of Nahapiet and Ghoshal (1998). That is because a variety of social media provide structure with network ties, cognitive support, and most importantly, relational support.

Finally, research question four: How do social media change the patterns of communication and discourse in firms? How do perceptions of the nature of discussion, patterns of interaction, and discourse within the organization vary with social media activity? Many aspects of organizational communication may be affected by social media. Do employees perceive that social media help creativity, new ideas? Do employees perceive that they challenge each other more with social media? Do corporate bloggers perceive that it is time well spent? Research question four is designed to flesh out in a small way the general character and desirability of social media.

In this research the terms "blog" and "social media" are generally used interchangeably to describe online participatory communications intended to engage a wider audience than specific addressees. Without regard to the specific technology the key characteristics are that the media foster connections and collaboration. Baker and Green (2008) in an update of the 2005 *BusinessWeek* article, pointed out that while blogs are still important, the "social connections" are attracting many more people.

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Any human communication activity can be analyzed from several theoretical perspectives. The key ones for this research are discussed in the next chapter.

CHAPTER 2
LITERATURE REVIEW AND THEORIES

Several significant sources of theory are applicable to social media. As a social phenomenon they can be analyzed on many levels, from the psychology of the individual blogger up to broad societal trends. This literature review starts with some important characteristics of blogs and more generally, social media. The discussion then shifts to organizational climate, a hypothesized reflexive enabler of blogging in organizations. Next, trust theory is reviewed in some detail because it is a significant part of organizational climate, theories of organizational communication, and models of employee commitment. Trust is a multi-dimensional concept and careful distinctions between levels of analysis must be made. Group theory is applicable because people increasingly work in groups rather than in isolation. Blogs have potential in many aspects of group work. Examples include seeking assistance, group support, vetting ideas, and monitoring of developments in the firm and industry. Employees' experiences of organizational climate at the group level have been well-studied in the social science literature. The discussion winds up with discourse, media theory and networking which shed some light on how social media might change how people interact.

A. Blog Research

Many newspaper and magazine articles discussed blogs and blogging, arguably the first mass social media. The academic literature has partially caught up after the traditional lags in journal publication. Much of what is said here about blogs applies to social media generally. Despite the millions of blogs, Herring, et al. (2005) suggest that

the blog is neither fundamentally new nor unique. They place the blog as a new genre in

the "ecology of the Internet." This genre shares features with and between both media-

rich web pages and the text-oriented computer-mediated communication systems in terms

of frequency of updating, multi-media capability, and symmetry of exchange. Blogs can

also be classified on the dimensions of personal vs. topical and individual vs. community.

((Herring, Scheidt, Wright, & Bonus, 2004), crediting Krishnamurthy.) This

classification is usefully applied to social media generally as in Table 2.1 below.

Table 2.1 Classification of Social Media

	Individual	Community
Personal	Diaries	support group
Topical	Filter	Collaborative, Content creation

Source: (Herring, Scheidt, Wright, & Bonus, 2004)

In their 2003 random sample of 203 blogs, Herring, et al. (2004) found that the

personal journal type blog was the dominant type with over 70% of the sample. The

filter type was second with 12.6 %. The filter type is one which primarily links to, and

comments on, other sites.

Table 2.2. Types of Blogs.

Blog Type	Frequency	Percentage
Personal journal	140	70.4
Filter	25	12.6
K-log	6	3.0
Mixed	19	9.5
Other	9	4.5
Total	199	100

Source: Herring, et al. (2004, 6)

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Overall, Herring, et al. (2004, 2005) said that the popular impression of large-scale linking between blogs is unjustified. However they concede that ease of use and the interactive character of blogs, what they saw as an incremental change has the potential to reshape the "genre ecology of the Internet."

Blogs external to the firm are important for customer involvement and public relations, but this focused mainly on social media involving employees, both the social blogs, the knowledge-management blogs or k-logs (Herring, et al. 2004) and ones which mix the functions.   Clues as to whether or not there is a strict separation of types of blogs behind or across corporate firewalls were investigated by this research. The results show a significant but not overwhelming correlation between blogging at home and blogging at work.

While internal corporate blogs may or may not be more likely to be project-centered k-logs, there is a fundamental difference compared to typical public personal blogs. It is that contributors are likely to have had some history, or prospect of interaction with each other on a company project. (The research confirms awareness of that fact.) Even though contributors may never have worked together, they may recognize that they might work together in the future. A related characteristic of social media inside organizations is that contributions are not anonymous thus the quality is more than likely well above the average on the Internet. The data show a modest recognition of the ability of social media to show ones accomplishments.

Another application of social media is as highly adaptable replacements for older, dedicated, and expensive group support systems (GSS). (It was recognition of this that set off this research.) The present-day communication and computation contexts are

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quite different than when GSS's were introduced. Data compression technologies,

software, and cheap bandwidth generally, and over the Internet specifically, have made

video conferencing widely available.   The appropriate GSS model now would be to post

information to a wiki, vet the issues, then meet, whether virtually or face-to-face (FTF),

to make decisions, and finally to use the social media forums to facilitate implementation.

Another factor has been the growth of globally distributed work with human knowledge

resources more important than physical ones.

Wright listed his 'top eight ways' blogs can be used internally as:
- Project management communication
- Internal communication and marketing
- Idea generation and vetting
- Employee involvement and connection
- Team and project communication with the entire organization
- Internal team and project communication
- Administrative communication
- Dynamic team creation (Wright, 2006)

Enjoyment of, and satisfaction with, work could well be added to the list above.

(See the results and discussion chapters for a finding on this.) A task of this research is to

test the application of trust and organizational climate theories to practical lists such as

Wright's.

The favorable discussion of blogging above should not imply that the author is

unaware of negative aspects of blogging. Criticism of employers by employees can be

constructive or malicious. A representative article entitled "Blogging: The New

Computer "Virus" for Employers" outlines a number of the problems and difficulties in

dealing with hostile blogs by disgruntled employees and others (Brody & Wheelin,

2005). Flynn (2006) published a whole book primarily giving advice on avoiding legal

trouble caused by blogs.

The proportions of business and social communication in blogs are significant

issues. Social Intelligence Design (SID) (Azechi, 2005) would structure the interactions,

perhaps assisted by software agents, to create affordances to promote both positive

identities and for knowledge sharing and creation.

In a significant study at "Mega" corporation Jackson, et al. (2007) found that

those people interviewed or surveyed reported valuable informational, social and other

benefits from blogging. Mega has 20,000 employees registered at the corporate blog site.

However, of the 17% of employees who had blogs, only 3% were active. Heavy and

medium users' actual social and informational benefits exceeded their expectations.

Informational, social and other benefits were reported as shown in Table 2.3 below.

Table 2.3 Reported Benefits from Blogging.

Informational	**Social** (continued)
Getting/sharing information	Building community
Journaling	Gaining company pulse
Problem solving	Gaining perspective
Getting/giving feedback	Developing reputation
	Self expression
	Building career
Social	**Other**
Engaging in dialogue	Managing upwards
Communicating	Working efficiently
Collaborating	Replacing technology
Networking	

Adapted from: (Jackson et al., 2007)

Social networking and 'building community' benefits were reported by all levels

of users. Blogging also lead to contacts outside the system, e.g. by telephone, more so

for heavy users. They found support for the "kindness of strangers" phenomenon reported in the classic article by Constant, Sproull and Kiesler (1996). In that study, more ties with organizationally lower-level people, or technical people contributed significantly to getting problems solved via broadcast email.

Keeping track of developments, the going's-on, etc. of the firm via blogs were also noted by Jackson, et al. (2007). This view is consistent with the view of the organization as the result of sense making by employees via numerous enactment-selection-retention sequences (Weick, 1979).

A study at Microsoft (Efimova & Grudin, 2007) was conducted by reviewing some blogs, policies, and by interviewing 38 bloggers about uses of blogs, and motivations for blogging. Microsoft has many blogs with and without company support, and with and without external visibility. The authors found three main purposes for "employee blogging" as contrasted with official "corporate blogging." They were communication with others, showing a human side of the company, and documenting and organizing work. The authors also found that the blogs varied in the mix of personal and business content, that mix could change over time, and that digital technologies might change organizational forms.

B. Blogging Just One of Several Social Media

The 2008 U.S. presidential election featured extensive use of many forms of social networking including "old fashioned" blogs hosted by candidates and their supporters, extensive use of video on YouTube, following on Twitter, and friends on

Facebook and many other sites. Numerous firms compete to provision these tools inside

client organizations while clients also build public sites on popular social network sites.

Companies face new problems and opportunities with their social media. One is

encouragement of use and continuing contributions with the relatively small audience

compared to the open Web (Brzozowski, Sandholm, & Hogg, 2009). A related problem

is maintaining attention to the new social media systems in the face of many competing

demands on time (Yardi, Golder, & Brzozowski, 2009).

C. Organizational Climate Theory

Organizational climate is employees' perception of company policies and social

environment (M. Patterson, Warr, & West, 2004). It is a reflection of how employees

feel they are treated by the organization (Harris, 2002). Organizational culture is, in

contrast, taken to be the high level, foundational values of the organization. Culture and

climate will not match if, for example, one department does not faithfully translate the

company culture into congruent everyday interaction. Measurements of climate tap into

the values and processes as experienced by employees. Organizational culture,

particularly a knowledge-centered culture, and organizational climate are often valuable

resources for firms (e.g. Janz & Prasarnphanich, 2003). Studies discussed below are

motivated by understanding the conditions that promote knowledge sharing as parts of

strategies of knowledge management (KM).

Patterson, Warr et al. (2004) found eight statistically significant dimensions of

company culture (out of 17 after controlling for job satisfaction) that predicted

productivity in the following year, controlling for previous productivity, company size

and industrial sector. The eight dimensions in British firms were supervisory support, concern for employee welfare, skill development, effort, innovation and flexibility, quality, performance feedback and formalization. Some components of climate thought to be important were not significant, for examples involvement and integration. Another significant finding was that job satisfaction was highly correlated with positive elements of organizational climate suggesting that employees make some overall, global summary assessment of the company values as they experience them in daily work. The study explicitly concerned economic productivity but noted that other research had studied climate as predictors of technological innovation, gain in market share, and effects on customers. Organizational climate is a big factor in the winners of "best companies to work for" surveys, but money is not (Harris, 2002).

As comprehensive and valid as the Patterson, West et al. (2005) climate survey was, it did not cover certain concepts directly related to social media. Communication climate – defensive vs. supportive (Harris, 2002) – is an important element of climate only tangentially addressed by Patterson, West et al. (2005). Other concepts under studied by Patterson and colleagues (M. Patterson et al., 2004; M. G. Patterson et al., 2005) were trust and tolerance of risk. Organizational climate is related to the topic of the "spirit" of technology in relation to adaptive structuration theory in groups discussed below.

Another study looked at 363 members of 12 teams in medium to large Spanish firms. The teams with involved leaders or coordinators, rewards for sharing, training for teamwork, and social events were associated with higher levels of active empathy, lenience in judgment, mutual trust, courage to express opinions, and access to help. The

constructs listed accounted for significant variance but the total variance accounted for was only 20% (Zárraga & Bonache, 2003).

In the U.S., Janz & Prasarnphanich (2003) examined 27 software development teams involving 231 IS professionals in 13 firms looking at organizational climate antecedents of knowledge creation and dissemination. Their model was based on theories of organizational learning, organizational climate, and job characteristics. They theorized that a construct called cooperative learning mediated between organizational climate variables and work satisfaction and work performance variables. See the model below in Figure 2.1.

Positive associations of climate variables were found for support of risk-taking, rewards for achievement, warmth, and general supportive environment. Organizational climate plus group autonomy were associated with a group learning concept that in turn was linked to positive evaluations by stakeholders (an independent measure) and work satisfaction.

In their study of information professionals Janz and Prasarnphanich found that a climate including risk (an element or mediator of trust), acceptance, reward, warmth, and
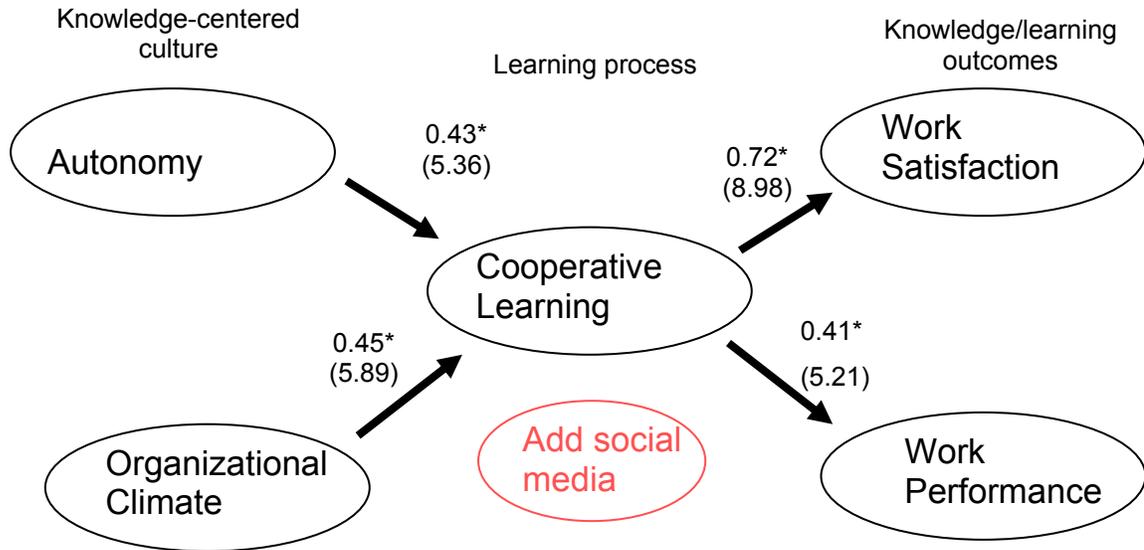
Figure 2.1 **Organizational Climate and Cooperative Learning Model of Janz & Prasarnphanich (2003) with Hypothetical Addition of Social Media.**

support, coupled with autonomy (an expression of trust) was positively associated with work satisfaction and work performance through a mediating variable, cooperative leaning.

Cooperative learning had three factors, positive interdependence, promotive interaction, and group process. Positive interdependence implies that the group succeeds together and has an identity, or group cognition. Promotive interaction was defined as the group identified individual strengths and weaknesses while helping each other advance. Social skills and "social knowledge" were said to be created by "collective actions of the group." Finally "group" process sought to measure self-analysis by the group's ability to for the purpose of addressing weaknesses. The authors asserted that ". . . the flow of knowledge is based on trust in both the organization as a whole and the specific individuals with whom we interact."(Janz & Prasarnphanich, 2003, 351). The

results of their structural model fitting are shown as Figure 2.1. Their hypotheses were supported.

Another recent, significant study concerns the role of organizational climate and intentions to share knowledge. In their study in Korea, Bock, Zmud, Kim, & Lee (2005) found that organizational climate conditions of fairness, affiliation, and innovativeness were positively associated with a subjective norm favoring knowledge sharing and intention to share knowledge, both implicit and explicit. Note the positive contribution of affiliation, a social identity construct. Their theoretical base was the theory of reasoned action (TRA) (Ajzen & Fishbein, 1980), a progenitor of the widely-employed technology acceptance model (TAM) (Davis, 1989). Other positive factors were a sense of self-worth and anticipated reciprocal relationships. Anticipated extrinsic rewards – to the surprise of the authors – were negatively, but not significantly, related to an attitude of knowledge sharing. Anticipated reciprocal relationships were also significant (Bock, Zmud, Kim, & Lee, 2005). The links shown in their (simplified) model, except of course for the hypothetical ones to blogging, are shown as Figure 2.2 and were statistically significant. Attitude toward knowledge sharing and subjective norm were important antecedents to the intention to share knowledge.

The addition of trust constructs to organizational climate would an extension of the model and perhaps would prove to be parsimonious. Their model does include fairness which is close to the integrity dimension of trust. An informative extension beyond intention to share knowledge would be actual behavior in contributing to blogs and replication in another culture.

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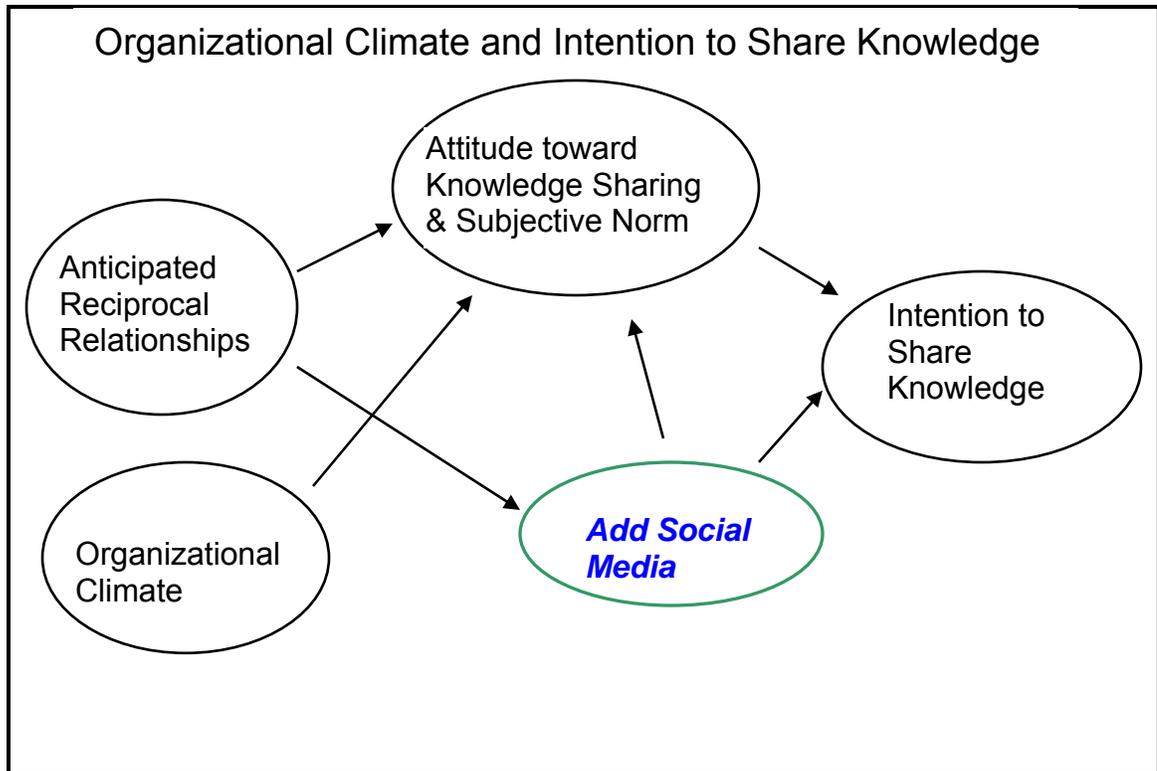
Figure 2.2 Organizational Climate and Knowledge Sharing, Simplified and with Model Showing Hypothetical Addition of Social Media. Adapted from Bock, et al. (2005)

Knowledge creation is an on-going process rather than something that is primarily event driven. Lee & Choi (2003) examined perceptions in Korean firms by surveying managers concerning knowledge creation processes. Those processes included socialization, externalization, combination and intermediation. Lee & Choi (2003) developed their research model with seven enablers: collaboration, trust, learning, centralization, formalization, T-shaped skills (having strong skills both business and technical matters), and information technology support. The enabler concepts of knowledge creation – components of organizational climate – were found to be

statistically significant in the aggregate but less so individually. They included

collaboration, trust, learning, centralization, and IT support.

Organizational creativity was a key dependent variable incorporated into their

model.   Surveys collected from 58 firms (of 147 in the sample, and 426 of 1,425

individuals) were analyzed to test the model. Possible non-response bias was not

carefully addressed. Their results confirmed the impact of trust on their knowledge

creation process variables of socialization, externalization, combination, and

internalization. See Figure 2.3 below with a conjecture as to where social media might

fit.

Climate as Enabler of KM

KM Enablers → Knowledge Creation Process → Organizational Creativity → Organizational Performance

Add Social Media

Climate
*Collaboration
*Trust
*Learning
*Centralization
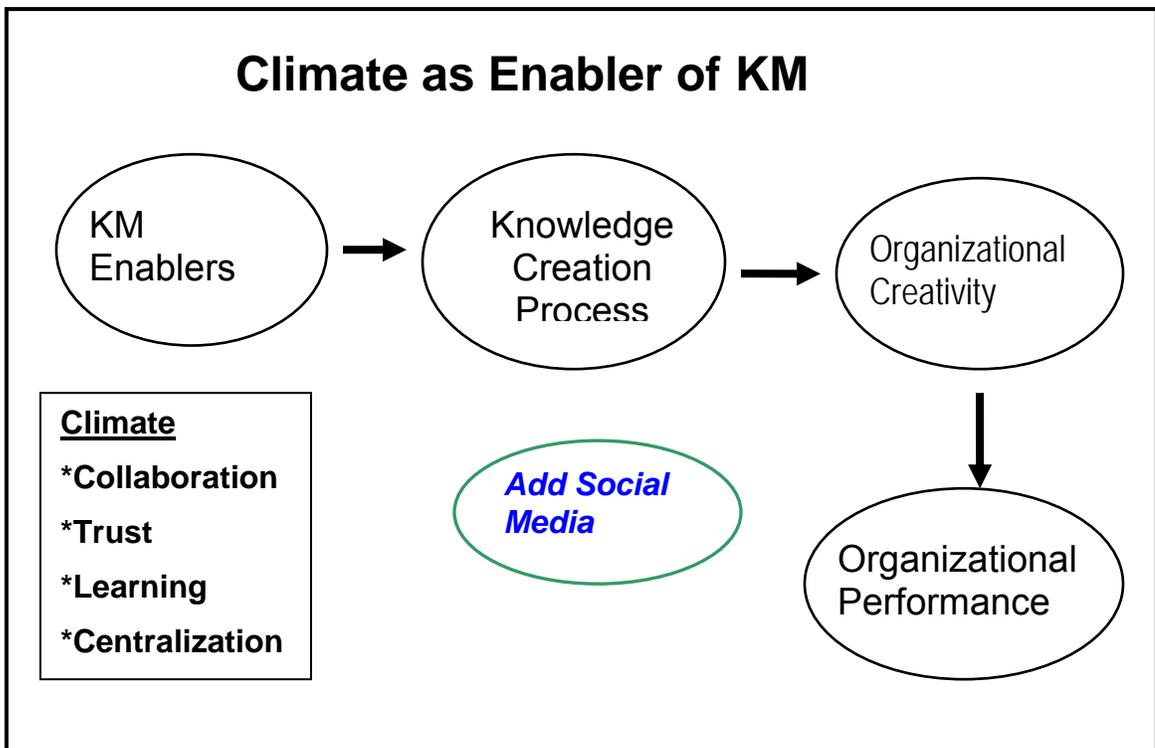
Figure 2.3 Simplified Lee & Choi (2003) Organizational Climate Model with Hypothetical Addition of Blogging

Many firms try to structure their organizational climates by their HR practices. For example Collins and Smith " . . . found that commitment-based HR practices were indirectly related to firm performance through their effects on organizational social climate and knowledge exchange and combination." (Collins & Smith, 2006, p. 554). Their analysis was by multiple regression and the results supported all constructs of the model below in Figure 2.4.

```
┌──────────────┐      ┌──────────────────┐      ┌──────────────┐      ┌──────────────────┐
│              │      │ Org. Climate     │      │              │      │ Firm             │
│              │      │                  │      │              │      │ Performance      │
│ Commit-      │      │  • Trust         │      │ Knowledge    │      │                  │
│ ment-        │ ───► │  • Coopera-      │ ───► │ Exchange     │ ───► │ •Sales growth    │
│ Based HR     │      │    tion          │      │ and          │      │                  │
│ Practices    │      │  • Shared        │      │ Combination  │      │ •Revenue from    │
│              │      │    codes         │      │              │      │ new products /   │
│              │      │    and           │      │              │      │ services         │
│              │      │    language      │      │              │      │                  │
└──────────────┘      └──────────────────┘      └──────────────┘      └──────────────────┘

                      ┌──────────────────┐
                      │ Add Social Media  │
                      └──────────────────┘
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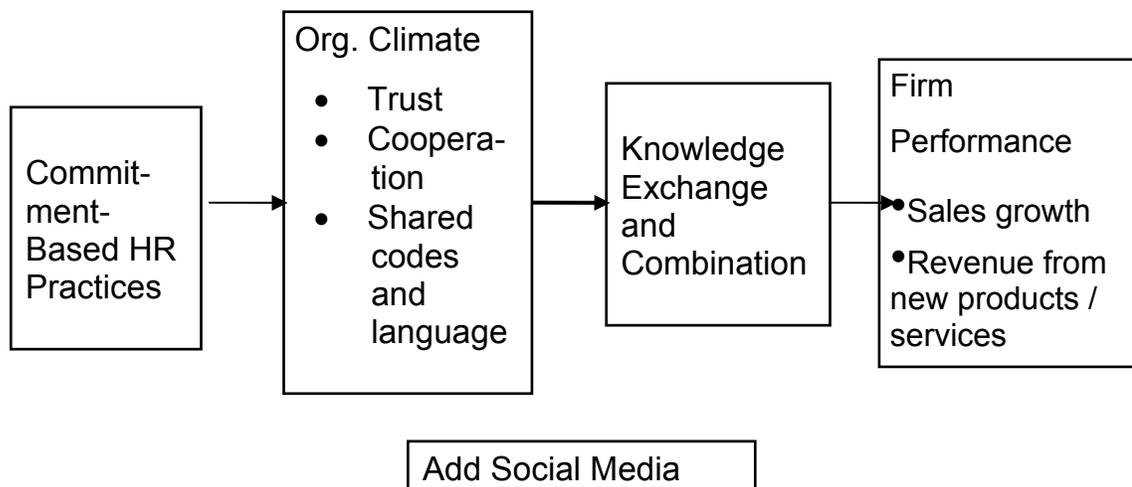
Figure 2.4. Collins and Smith (2006) Model of HR Practices, Organizational Climate, Knowledge Exchange & Combination, and Firm Performance.

The values implied by commitment-based HR contributed significantly to a favorable social climate which in turn was linked to knowledge exchange and combination by employees. The particular strength of the Collins & Smith (2006) empirical research is that it tested, and found support for, the theory of social capital formulated by Nahapiet & Ghoshal (1998). That theory proposed that social capital has

structural, cognitive, and (especially) relational dimensions. Nahapiet & Ghoshal also asserted that effective organizations will use social capital to build intellectual capital. This research is essentially testing the idea that social media may indeed contribute to the formation of social and intellectual capital through trust, organizational climate, and knowledge sharing. The Nahapiet & Ghoshal theory is based in part on that of Schumpeter's (1934) theory of economic development that stressed the importance of new combinations of productive factors often made in the face of challenging social environments.

The preceding discussion supports the claim that organizational climate directly affects productivity and knowledge sharing. For good reason firms strive to be enjoyable places to work in support of their necessary goals to be profitable in the process. In this era of declining importance of manufacturing, intellectual capital's importance is increasing. New ideas are the new products. Better delivery of services and happy customers are also essential. Social media are by their natures communication channels suited to discussion of ideas and inviting participation. Blogging may help firms mobilize their people and their ideas. The study of how organizations take advantage of their intellectual resources is often called knowledge management (KM). KM also involves capturing the tacit knowledge of experts. The next chapter, research hypotheses, illustrates how social media would fit into the cited studies of organizational climate and KM or knowledge sharing. Organizational climate is defined in several ways as noted above. The cited research also provided a number of plausible alternatives for measurement scales.

Obviously social media are not necessary or sufficient conditions for effective knowledge management. Blogging is one of several communication tools available for helping organizations and teams communicate effectively. The next chapter outlines a test of the claim that social media positively affect organizational climate, knowledge sharing, and trust. From the above review, this research can reasonably predict that blogs contribute to a positive organizational climate. The degree to which that climate is a necessary or sufficient condition and the direction of causality are research questions. Trust may be a necessary condition of a productive organizational climate and it is the subject of the next literature review section.

D. Trust Theory

Open virtually any popular business magazine, whether general or specific to C-level executives and readers will find trust discussed. Trust is clearly important to dealings internally and externally to the firm. The reports tell about trusting employees, building trust with departments or executives and suppliers. Firms must not forget to earn the trust of customers. Everybody knows what trust is but when it comes to research, the investigator quickly discovers that there is a deep structure to trust.

Trust has many definitions. For example, Fukuyama (1995) considered trust, a form of social capital, to be more important than physical or financial capital and defined it as ". . . the expectation that arises within a community of regular, honest and cooperative behavior based on commonly shared norms on the part of members of the community" (26). Mayer, Davis & Schoorman remind us that trust involves at least one of the parties accepting exposure to risk (Mayer, Davis, & Schoorman, 1995).

The complexity and importance of the trust concept were illustrated by the following study which noted both the trustworthiness of others (potential trustees) and trustor attitudes and behaviors. Employing interviews in 20 organizations (13 for profit, 7 non-profit), Abrams, Cross, Lesser & Levin (2003), summarized their findings and advice on successful knowledge-sharing networks this way.

> "From our interviews, we learned that those who are seen as trustworthy sources of knowledge tend to: (1) act with discretion; (2) be consistent between word and deed; (3) ensure frequent and rich communication; (4) engage in collaborative communication; and (5) ensure that decisions are fair and transparent. Under organizational factors, we identified two ways to promote interpersonal trust: (6) establish and ensure shared vision and language; and (7) hold people accountable for trust. Under relational factors, there is some overlap with the trustworthy behaviors mentioned above, but we also identified two new behaviors: (8) create personal connections; and (9) give away something of value. Finally, under individual factors, a person's own judgment of his or her abilities (self efficacy) also matters, a trust-promoting behavior identified in our interviews which we characterize as (10) disclose your expertise and limitations." (Abrams et al., 2003, 65-66) [footnotes omitted].

The close connection of trust and knowledge is illustrated by a relatively simple trust model in a telemedicine research project. Paul & McDaniel (2004) conceptualized and looked for four kinds of interpersonal trust namely, calculative, competence, relational, and integrated. Trust is particularly important in medicine because of the risks to the patients and providers' reputations.

Briefly, calculative or rational trust is trust based on 'cost-benefit' considerations, i.e. "Am I better off by collaborating?" Competence trust is the evaluation that the collaborator has the knowledge and experience to provide good advice. Relational trust, also called benevolent trust or normative trust, is the feeling that the parties want to help each other. Relational trust is based on personal goodwill. Finally, integrated trust is a

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general summation of the three previously-mentioned types of trust. See the model in

Figure 2.5.

Interpersonal Trust

Self-Interest
Ability
Empathy
Integrated

→ **Virtual Collaborative Relationship**
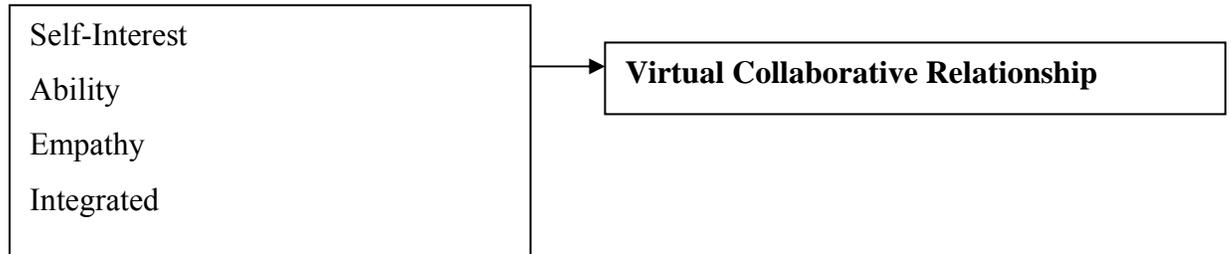
Figure 2.5. Paul & McDaniel (2004) Model of Trust and Virtual Collaborative Relationship. Adapted from (Paul & McDaniel, 2004, p. 187 Fig. 1)

Paul and McDaniel (2004) examined the association of interpersonal trust with

virtual collaborative relationship (VCR) performance. Trust enabled collaboration as a

means of complexity reduction, and virtual collaboration extended face-to-face

collaborative relationships by substituting technology for collocation. Their study

consisted of 74 interviews in 3 health centers concerning 10 specific projects and thus 20

relationships, 10 each way. (That is remote practitioners' perceptions of the health center

experts were gathered with health center experts' perceptions of the remote practitioners.)

Through qualitative analysis of interview data, and by a complicated[1] facet

analysis, Paul & McDaniel (2004) found that the impact on remote site health care

delivery of VCRs was monotonically associated with each of the individual types of trust

---

[1] They were forced tease out explanatory classifications because of their small sample size.

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and integrated trust. Significantly, however, they discovered that without the competency trust, the overall trust was negative.

For future research Paul & McDaniel suggest, *inter alia*, determination of whether integrative trust is a new kind of trust or just a mixture of the other types of trust. (See the discussion chapter for a comment.) Additionally, they recommended addressing how the different types of interpersonal trust interact and the temporal relationships between these types of trust.

In less life-critical settings employees often choose to seek advice from less competent but more likeable (and therefore trustworthy – more benevolent, less risky to self-esteem) colleagues (Casciaro & Lobo, 2005). They conducted surveys of social networks and interviews in a Silicon Valley firm, an IT multinational, a U.S. university and a Spanish office of a global luxury goods manufacturer. They pointed out that sometimes facts alone are not sufficient to accomplish a task. Brainstorming and follow-up with a competent jerk might be difficult. They wrote, " . . . [I]n order to learn, you often have to reveal your vulnerabilities, which may be difficult with the competent jerk – especially if you are afraid of how this might affect your reputation in his eyes or in the eyes of others to whom he may reveal your limitations"(Casciaro & Lobo, 2005, p. 95). These issues concern one individual trusting in another, risking being vulnerable.

Both individual and organizational forces are at work with trust concepts. Trust is treated in the literature as an environmental (sociological perspective) variable as in organizational climate, as a cognition about a trustee (social psychological perspective), and as an individual personality variable (psychological perspective) (Mayer et al., 1995; McKnight, Choudhury, & Kacmar, 2002). The many types of trust may not be

comparable from one piece of research to the next. Although Mayer, et al. (1995)

entitled their article "An integrative model of organizational trust," and convincingly

sorted out the three levels of analysis, they limited their applicability claim to dyadic

relationships as for example between a junior employee and mentor. (The model has

since been extended to teams as discussed below.) Particularly appealing about the

Mayer and colleagues' model are the feedback loop and the perceived risk moderator

shown in the figure below. It lacks the organizational climate construct hypothesized in

this research.
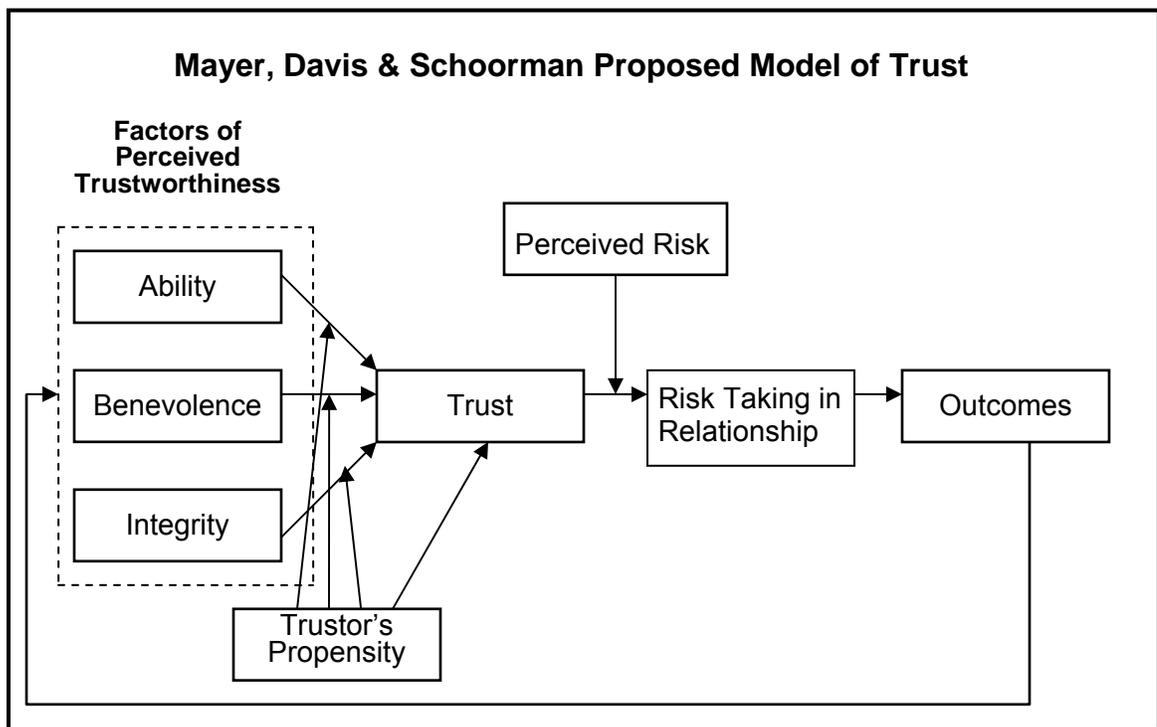
Figure 2.6 Mayer, Davis & Schoorman Trust Model. Source: Mayer, Davis & Schoorman, (1995), Fig. 1, page 715

Trust is a well-studied concept in social science. However many of the studies

mix definitions and levels of analysis. Some have dubious reliability in my opinion –

because of short scales, for example – but are published. (Mandelli (2002), for one, has

some very interesting observations about trust but her short scale addressed trust only indirectly.) Early work has been replaced by much more careful research. Several types of trust have been distinguished. McKnight, et al. (2002) found 15 types of trust in their literature review in preparation to build new scales. In addition to trust in collaboration methods, there is a great deal of research interest in trust and e-commerce because of e-commerce's expanding share of business transactions. This study concentrates on conceptualizations of trust more related to collaboration while taking advantage of refinements in the conceptualization and operationalization of trust fostered by e-commerce research.

McKnight & Chervany (2002) provided another influential, frequently-cited trust model bringing together the concepts of trust at different levels of analysis and built in large part on Mayer, Davis & Schoorman (1995). They explicitly extended the model for e-commerce but the general principles apply. Below Figure 2.7 suggests how blogging could fit in the McKnight & Chervany theoretical framework. McKnight & Chervany recommended that their model be tested with trust-related behaviors, i.e., go beyond the trusting intentions expressed in their experiment. Blogging could be the explicit trusting behavior.

A subsequent article, McKnight, Choudhury & Kacmar (2002) presented the details of the validity of the concepts as found in an e-commerce experiment. At the individual level, disposition to trust included faith in humanity -- competence, benevolence, and integrity – as well as trusting stance and personal innovativeness.

At the institutional (sociological) level, the measures were related to the institutions of e-commerce and situational normality of benevolence, integrity and

competence plus a general perception. For example, in the organization a question might

be "I am comfortable relying on the company to meet its obligations." There can also be

structural assurances of safeguards.
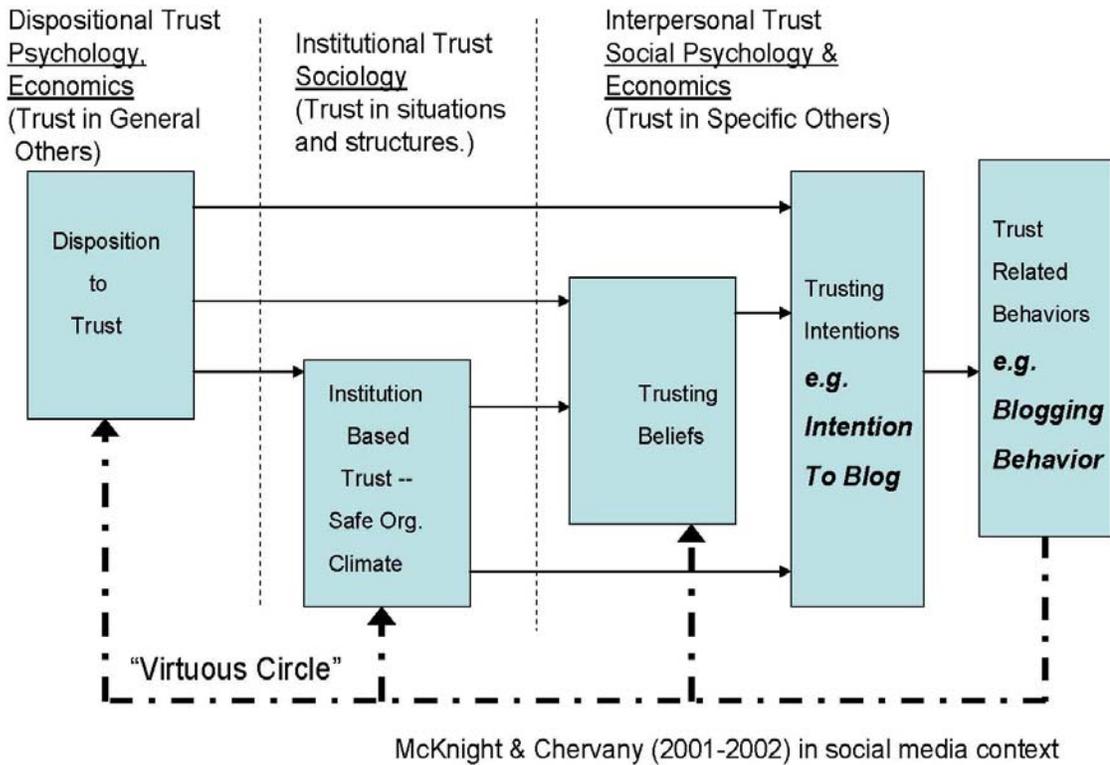
Figure 2.7 Blogging's Hypothesized Fit into the McKnight & Chervany Trust Model. Adapted From McKnight & Chervany (2002, 42).

Trusting beliefs (social psychological effects) in the context, economic factors,

and institutions contribute to trusting intentions that then may correlate with other

behaviors. Social-psychological factors work at the team level, a feature of many modern

organizations (Edmondson, 2004). Blogging policies whether written, or just part of the

culture, are forms of structural or institution-based trust.

Trust involves the creation of interdependencies as well as vulnerabilities. In

learning communities, Suthers (2005) asserted that their effectiveness is improved by

deliberate exposure of weaknesses in order to move forward. He said that knowledge-building communities expand their boundaries by collectively, that is by social interaction, reflecting on the "limits of their understanding and choosing actions that address these limitations. . ." (Suthers, 2005, 663). He called it "meaning-making." This research indirectly elaborates on Suthers' symbolic interactionist view of the process.

In other words, collaborators must trust each other enough to reveal weaknesses and make explicit the need and resources to improve conditions, e.g. knowledge sharing. The affordances of blogs and their asynchronous use could facilitate discussion of matters before they became urgent while raising questions without explicit impressions of ignorance.   We should ask if there can be trust in a group – a sort of halo effect – beyond trust between individuals? (See the section below on social capital.)

To address the question, Serva, Fuller & Mayer (2005) conducted a field experiment and demonstrated an effect for reciprocal trust among interacting teams. In doing so they extended the theoretical model of Mayer, Davis & Schoorman (1995) from dyads to teams. Senior undergraduate college business students took roles of software developers for one team and were the managers for a third team. They interacted during one semester in a setting fairly comparable to project teams working in a business setting. Serva, et al. also explicated the feedback loop shown by Mayer, et al. (1995) finding evidence for reciprocal trust. Their measures were considered as good alternative scales for use in this study.

Trust thus involves both giving and receiving. Social media often involve both. Some people share what they know while others ask for help. As noted above, organizational climate can promote sharing. We must ask if there were some cultural or

industry-specific dimensions that would affect generalizability of a claim that blogs produce a gain in knowledge sharing. For example, at Mega Corporation the most active bloggers posted much more frequently on sites other than their own (Jackson et al., 2007).

Wasko and Faraj (2005) applied theories of collective action and social capital to study knowledge contribution in electronic networks of practice. They evaluated the frequency and helpfulness of postings. The significant constructs predicting knowledge contribution were reputation (perceived enhancement of), centrality (dense strong ties) and tenure in the field (a law specialty). Non-significant constructs were enjoyment of helping, self-rated expertise, commitment (to the network) and, to the authors' surprise, reciprocity norms. Trust was not studied. Their findings do not contradict aspirations for social media because the inter-organizational context and technical focus minimized the social aspects. It appears that trust is less important when working relationships are well-structured (Jarvenpaa et al., 2004).

Experiments have also shown that trust can be increased before and during an online series of tasks by the exchange of personal information, and by specific behaviors. Jarvenpaa & Leidner (1999) provided one of the first and most frequently cited studies of trust-building in virtual teams. Teams of globally dispersed students worked on projects and were compared on level of trust initially and at the end of the project. The researchers examined communication and relationship behaviors that seemed to distinguish the groups early and later in the projects. Positive associations with trust were found early for social communication and enthusiastic communication. In addition, the groups with high initial trust tended to cope well with uncertainty and show

individual initiative. Later in the completion of projects, substantial, frequent and predictable communication was associated higher levels of trust. On the relationship side, high trust was associated with transition to focusing on the work, positive leadership, and "phlegmatic response to crises" – i.e. they did not panic.

Experimental designs produced the same general results. Zheng, Veinott, Bos, Olson & Olson (2002) created five conditions of social activity before engaging in a social dilemma task in which cooperative bidding produced bigger rewards. The five conditions were face-to-face (FTF), social chat (text messaging), posting of a picture, posting of a personal information sheet (similar to a resume), and nothing. The task was a multi-trial version of the prisoner's dilemma task involving simulated day-trading on the stock market. The pairs of paid players were rewarded for cooperatively investing but did not know the exact amount the other invested due to simulated stock market fluctuations. Trust was measured by the amount of money cooperatively invested. After every five trials the pairs of participants were allowed to communicate via an internet chat program. The trust was between (or relatively not) the partners of a pair.

Photo, chat and FTF conditions produced statistically significant, and socially meaningful, higher payoff scores than the nothing condition. The questionnaire evaluations of trust produced similar results. By the end of the 30th simulated day, all groups produced more cooperation.

Open questions remain about the importance of visual personal information (media effects), how the trust would be created in non-laboratory tasks, and temporal effects (Zheng et al., 2002). In the experiment the participants did not know each other. In an organization, the participants would often be at least acquaintances and would

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understand that they might work together in future tasks. Thus the details of the form and amount of social online exchange in organizational blogs are of both theoretical and practical value.

Beranek (2005) experimented with relational and trust training on 48 virtual teams of 3 – 4 students over eight weeks of work on three tasks. Trust training (communication protocols, timely and substantial communication) and relationship training (social information and enthusiasm) proved to be virtually interchangeable in terms of trust in other members as measured at three times. Both were significantly better than the no-training condition and a "double dose" of both was not significantly better.

Weblog technologies include comments facilities that permit readers – subject to access rules – to engage easily in a discussion about particular blog entries (Efimova & de Moor, 2005).   The socio-technical system affordances matter.   They create flexibility in the way people interact and leave varying traces of those interactions, including say notes on phone calls. Interestingly, blogger.com, for one example, allows phone calls to be attached – and of course podcasts. For another example, Efimova & de Moor studied two socio-technical context elements of blog conversations. "(1) Rhythm and media choices: activity levels over time, uses of posts vs. comments to add a contribution, indications of other media used. (2) Linking practices: linking and quoting, linking in summaries, links to one's own weblog." (Efimova & de Moor, 2005, p. 3)

In business settings both social control and legal requirements constrain interactions on blogs. This is in distinct contrast to anonymous bloggers where that is permitted. As suggested below, contributors could rate and be rated on, the dimensions

of Habermas' theory of communicative action (TCA). For example, "So and so was only trying to make the point that we follow our norms for discussion . . ." The United States' Sarbanes-Oxley financial accountability legislation requires preserving instant messages in some firms. Blogging also preserves comments for as long as the firm's policy dictates. Examples of anonymous intra-firm blogging are unknown (Charman, 2006) but conceivably exist for companies wanting uninhibited candor in controlled circumstances, for example whistle-blowing.

Mandelli (2004) pointed out several important considerations concerning online communities.   Using a transaction cost approach, she argues that firms must recognize that maintaining social connections is not "free." That is, it requires resources. This research probes the degree to which employees recognize this and as one measure, commit time to social media. Azechi (2005) provided an "informational humidity model" claiming that "wet" systems provide personal specification (which could include trust) and personal identification elements that are suited to tacit-to-formal knowledge creation. That could correspond to the organizational blog. "Dry" systems with no personal information, he asserts, are suited for community members to convert formal knowledge to their own tacit knowledge. Azechi recommended that dry and wet systems be isolated to reduce (unproductive) "flaming." This claim could be tested by looking at the ratings of blogs that mixed personal and business matters compared to blogs that kept the matters separate – pure k-logs.

Azechi stated that a pilot study showed that the "dry" community enhanced the motivation of community members to present and obtain information. This runs counter to the research of Mandelli (2004) and McAllister (1995) in which conditions for

"wetness" or affect may improve collaboration – as contrasted with the transfer of

"facts." Of course in practical business problems neat divisions of type of community

may be difficult to realize. However, Azechi's higher goal is to point out such concerns

for the discipline of social intelligence design (SID). " . . . SID is defined as a design that

clarifies what features are needed for systems that mediate communities and improve

their knowledge-creating activities." (Azechi, 2005, 110-111).

"Wetness" appears to foster the affect-based trust described by McAllister (1995).

While McAllister documented through factor analysis that affect-based and cognition-

based ("dry") trust are distinct, reliable constructs, only affect-based trust was

significantly related to organizational citizenship behaviors (OCB) and performance

ratings. Costigan, et al. (2007) reported a similar finding of trust by supervisors.

Affective trust was more important than cognitive trust.

Another important function of trust is to facilitate delegation (Mandelli, 2004).

People delegate more substantial or significant projects to other people they trust. This

promotes efficiency. A combined blog & wiki service provider noted that services like

his (See www.socialtext.com) promote "letting go" or delegation:

> ". . . We spent a lot of time developing physical infrastructure, and
> now we have to develop the social infrastructure on top of it. The
> earliest adopters of the Internet were the geeks and hackers who were
> using the web for social purposes. Out of all that social interaction
> they realized that if they could find a way to let go of a tiny bit of
> control, they could invent whole new models of production. They
> could encourage common-goal production, rather than production
> driven by markets or companies."(Mayfield, 2005)

Note however that some employees may see "over trust" or excessive delegation

as abdication of responsibility (Jarvenpaa et al., 2004). Sutanto, Phang, Kuan,

Kankanhalli, & Tan (2005) independently reinforced Jarvenpaa, et al.'s findings of the importance of structure, assignment of roles, coordination and shared mental models in virtual teams. Otherwise they said, a virtuous circle can turn into a vicious circle. An example of vicious circle behavior would be status-driven vertical communication between two members and not shared with the group. Kramer and Cook (2004) raise the question of how trust works in the context of power relationships. The monitoring function of social media could help maintain an appropriate level of delegation.

Trust is an important component of social capital, and is in fact the basis of networks within organizations. Those networks need resources and maintenance to be effective for knowledge creation and management (Huotari & Iivonen, 2004). This is not a study of trust in general, for example online trust in e-commerce, but rather trust within organizations and groups as promoted (or not) by social media''.

Personality Theory of Trust

Brown, Poole & Rodgers (2004) proposed that in online collaboration, propensity to trust is most usefully considered as a relatively stable part of personality and constructed differently than in models such as Mayer, Davis & Schoorman (1995). Brown, Poole & Rodgers (2004) apply an interpersonal circumplex model (ICM) as the theoretical basis. In the ICM model respondents are classified on the basis of location relative to orthogonal dimensions of dominance vs. submissiveness and affiliation vs. hostility. For example, the model predicts that persons high on dominance and hostility will be mistrusting while those who are moderate on dominance and affiliation will provoke trust. They illustrated their propositions with the work of Jarvenpaa and Liedner

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(1999) in which virtual collaborative groups with low initial trust did not make an effort to get to know each other before tackling the tasks. Such behavior would be explained by personality variables and could be overcome or at least mitigated by actions structured by the affordances of the technology.

In the context of e-commerce, McKnight, Choudhury & Kacmar (2002) made reliable but different measures of disposition to trust. Disposition to trust is a psychological trait of individuals. Sub-concepts include faith in humanity, trusting stance, faith in competence of others, and faith in the integrity of others. Their e-commerce focus of institutional, structural trust would need modification for applications outside of e-commerce.

Thus we recognize that there are different formulations of what constitutes propensity to trust. However, the test of which formulation has better predictive power in organizations is beyond the scope of this research.

Psychological Safety

Psychological safety is a group or team concept closely related to trust (Edmondson, 2004). She distinguished it from trust by three factors: the object of focus, time-frame, and level of analysis. In psychological safety the individual considers whether others trust him and whether he will be given the benefit of the doubt. The individual considers how others will act in the role of trustor. Psychological safety applies to a specific time and action. Will duty, or saying or doing the right thing overcome any tendency for embarrassment? Finally, Edmonson proposed that team psychological safety is a sociological factor rather than a personality trait. Team

psychological safety may work in the larger context of, or be institutional trust (McKnight & Chervany, 2002).

Similarly, Michael A. Roberto warned about the importance of constructive conflict in his book *Why Great Leaders Don't Take Yes for an Answer* (Roberto, 2005). The benefit to the firm comes from a balance between consensus and conflict, and coming to resolutions and decisions after periods of conflict.

As a concluding note on trust in organizations, the proprietary employee survey used for selection (from firms that nominate themselves) of "Best Places to Work" in *Fortune* magazine is known to have a significant trust component (Fulmer, Gerhart, & Scott, 2003). Thus comparison of the "Best" with a comparable or random group on social media practices and policies would be informative.

E. Modes of Interaction

Group Theory

Progress in Internet technology has not only made more options available for group support but it has also changed the way firms are organized and do business. Globalization and increased outsourcing are prima facie evidence that the network society has changed the way we all work and live (Castells, 2000). Fulk and Collins-Jarvis (2001) cited studies that showed managers spending 25 to 60% of their time in meetings which are increasingly virtual. Improving the efficiency and quality of meetings by appropriation of technology offers a challenge and an opportunity. Collaborative technologies may reduce the need for formal meetings whether face-to-face and/or on-line.

Meetings automatically signal group behavior. As a much-researched field of sociological study, group theories may provide insights on where to look for prior conditions and effects of social media. Waldeck, et al. (2002) in introducing new areas for group research, classified the field into four major perspectives, namely functional theory, symbolic convergence theory, group structuration theory, and the bona fide group perspective. Those perspectives and in particular the last three provide useful theoretical approaches to studying social media as online groups. Briefly outlined are the key elements of each according to Waldeck, et al. (2002) and the research opportunities suggested by the authors that may be viewed as being significant for group support system (GSS) research in general, and in social media research specifically.

Symbolic convergence theory (SCT) was developed in the 1970's with roots in work by Bales in group communication (Waldeck et al., 2002). They stated, "The basic assumption of SCT is that humans, by nature, interpret and give meaning to the signs, objects, and people they encounter. SCT scholars argue that when groups of people share and interpret human symbols, or messages, they create a common consciousness, or shared reality" (Waldeck et al., 2002, p. 9).

SCT talks of rhetorical vision

". . . or a composite drama that draws people into a common symbolic reality . . . . Three primary master analogues drive rhetorical visions: *righteous analogues* (right and wrong, proper and improper, superior and inferior, moral and immoral, and just and unjust) . . . *social analogues* (containing relational factors such as friendship, trust, caring comradeship, compatibility, family ties, brotherhood, sisterhood, and humaneness . . . or *pragmatic analogues* (stressing "expediency, utility, efficiency, parsimony, simplicity, practicality, cost effectiveness, and minimal emotional involvement" (Waldeck et al., 2002, pp. 9-10).

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Some of the SCT constructs are useful in describing the changes observed by structuration. Social media are hypothesized to contribute to the identities of contributors and strengthen identification with the analogues of the firm – the stories, mission, vision, etc. SCT may also be viewed as an alternative formulation of Weick's (1979) sense making concept. Sensemaking is an active area of study in corporate social networking (DiMicco, Geyer, Millen, Dugan, & Brown, 2009).

Adaptive Structuration Theory (AST) looks at how the "appropriation" of technology restructures the group using communication technology. Researchers look at a number of dimensions on three levels of analysis such as the micro, 'global' and institutional corresponding to individual speech acts, the meeting, and multiple groups in the organization (DeSanctis & Poole, 1994). AST has been proposed as a bridge between the European-centered model-driven perspective and the U.S.-centered technology-driven group support research described by Morton, et al. (2003).

> "AST can also enhance our understanding of groups in general, not just those using technology. The major concepts of AST . . . cover the entire input → process → output sequence that [2 papers cited] advocate as an organizing paradigm for group research. AST provides a general approach to the study of how groups organize themselves, a process that plays a crucial role in group outcomes and organizational change." (DeSanctis & Poole, 1994, p. 143, 143)

Their paper invoked the multi-dimensional concept of "spirit" to characterize a GSS. The dimensions of spirit proposed are:

- "Decision process: The type of decision process that is being promoted, for example consensus, empirical, rational, political, or individualistic …,
- "Leadership: The likelihood of leadership emerging when the technology is used, whether a leader is more likely or less likely to emerge, or whether there will be equal participation versus domination by some members ….

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· "Efficiency: The emphasis on time compression, whether the interaction periods will be shorter or longer than interactions where the technology is not used . . .

· "Conflict management: Whether the interaction will be orderly or chaotic, lead to shifts in viewpoints or not, or emphasize conflict awareness or conflict resolution . . .

· "Atmosphere: The relative formality or informal nature of interaction; whether the interaction is structured or unstructured" (DeSanctis & Poole, 1994, p. 127, 127), (references omitted).

Spirit appears to be similar to organizational climate. The "spirit" of organizations promoting social media is hypothesized to be different than those not encouraging blogging. Social media are inherently reflexive in accordance with structuration theory through processes of appropriation and adaptation of this new technology.

The fourth major theory described by Waldeck, et al. (2002) was the bona fide group perspective (BFGP). The key concepts are permeable and fluid boundaries of the group, and interdependence with context. This view of the group recognizes the real nature of mostly stable groups embedded in organizations. BGFP is said to offer rich opportunities for understanding group processes by capturing references to outside groups. Social media certainly facilitate permeable and fluid boundaries if they are open. Many have a closed membership or do not allow comments. The fluid group view is especially appropriate for the increasingly used, accelerated, web-enabled, geographically dispersed team.

While Waldeck, et al. (2002) make only a brief reference to network theory of groups in their theoretical overview. Clearly a network theory of groups makes sense in the context of social media. It fits with the changing, ad hoc groups considered by the

BFGP perspective. Analysis of social media links could, for example, document the need

for a group to improve (alter, etc.) its members' network connections.

Argument and Communication Interaction in Groups

Regardless of the theoretical perspective used to analyze group functions, the

injection of new social technology should induce changes in patterns of interaction. One

of this research's approach to argument concerns speculations on the application of

Habermas' communicative action to collaborative systems. The argument approach has a

tradition focusing on argument as rational, convergence-producing, decorous and verbal

(Meyers & Brashers, 2002). One would expect that organizational groups would

overwhelmingly use traditional argumentation conforming to Habermas' theory of

communicative action in trusting environments, but multi-media elements are

increasingly used. Constructive disagreement may be facilitated by social media while in

a concurrent change grandstanding and flaming may be reduced compared to email

exchanges.

A few GSS projects, both practical and research-driven, used the general concept

of Habermasian 'ideal speech' according to Sheffield (2004). He designed GSS

interactions for a large regional planning effort based on making explicit the validity

claims (plus intelligibility) of competing community interests according to Habermas'

theory of communicative action (TCA). In brief, the three claims are sincerity or

truthfulness of a speaker, (social) rightness or consistency with norms, and objective

truth. Communicative action is complex. As Habermas noted,

> " . . [An] actor who is oriented to understanding in this sense [rationality
> potential] must raise at least three validity claims with his utterance,
> namely:

1. That the statement made is true (or that the existential presuppositions of the propositional content mentioned are in fact satisfied);
2. That the speech act is right with respect to the existing normative context (or that the normative context that is supposed to satisfy is itself legitimate); and
3. That the manifest intention of the speaker is meant as it is expressed." (Habermas, 1984, 99).

Collaborative media, via their reflective nature should create a trusting social climate. They encourage challenges to validity claims. Numerous examples exist of bloggers challenging and correcting public statements.

While accepting the richness claim of an interpretivist approach to blogs, it should be possible to validate the claims of interpretivist and critical theory – e.g. Habermas' TCA – approaches using empirical techniques. Specifically, the degree of compliance with validity claims could give a reliable measure of GSS or blog success when compared to output measures and structural changes. Sheffield (2005) spent a lot of energy over years of effort to conclude that his GSS processes based on a Habermasian perspective produced insights into the effectiveness of some regional planning concepts. Such efforts are economically justified for billion-dollar public works projects and important issues in large corporations. These days modern blogging technology would have saved time and money compared to working with transcripts of public hearing testimony. "Everyday" decision processes have to be much more efficient, cost effective, easy to implement, and "good enough." Hence collaboration engineering has emerged as an applied, practical social science discipline (Briggs, de Vreede, & Nunamaker, 2003). Internet-hosted solutions are likely to be affordable and better than "good enough."

Organizational blog policies are hypothesized to predict how communication changes from TCA mode to Habermas' other, more confrontational, discourse mode.

Sheffield first designed the regional planning process using TCA concepts and then evaluated it using observation and interviews with participants. If TCA is more than just philosophy, it should be confirmable in by blog-collected survey data from participants. As a practical matter, the TCA/validity claims theory, if it is valid, should be translatable into more rapid decision making and collaboration than a complicated urban planning consultation and decision.

Shortcomings and inconsistencies in Sheffield's (2005) evaluation – agreement on certain facts but voting for another solution – illustrate a limitation of TCA. Habermas limited TCA's applicability to situations where the parties are focused on reaching understandings. In contrast, strategic actions are social actions but are success-oriented and not dependent on mutual understanding but rather "exerting influence" or power claims (Habermas, 1998).

An underlying goal of, or reason for, communicative action is rationality. While examination of the validity of a rationality concept is debated by critical philosophers, few would challenge the idea that rationality is desirable in organizations. As Habermas said, "In these validity claims communication theory can locate a gentle but obstinate, a never silent although seldom redeemed claim to reason, a claim that must be recognized de facto whenever and wherever there is to be consensual action." (1979, p. 97, 97)

The importance of studying interactions in groups was emphasized by Suthers (2005) who called for creating interpretations as well as knowledge-sharing through interaction in learning communities. That interaction would also involve disagreements

from time to time. Part of the knowledge, an "interactional epistemology," would be those interactions. That social view of knowledge is entirely consistent with the idea popularized by Senge that modern, successful companies are learning organizations (Harris, 2002).

Organizations may benefit from healthy disagreements (the concept needs definition) by attracting more people into debates and refinement of the ideas expressed. Pascale & Sternin (2005) promoted the positive deviance model in which the community is the guru. "Only when people feel safe enough to discuss a taboo and when the community is sufficiently invested in finding solutions can the prospect of an alternative reality appear." (Pascale & Sternin, 2005, p. 77).   Social media may help positive deviants to emerge. (See the discussion on closure in the section on social capital.)

F. Media Uses and Gratifications

The Internet collaborative technologies, social media, can be considered mass as well as personal media. A major theoretical perspective on media, social or otherwise, is uses and gratifications. For example. Matsumura, et al. (2005) found three factors or constructs in on-line exchanges in Japan's 2channel, the largest on-line community at the time. The first factor consisted of two types of discussion. The one called chitchat type consisted of people who joined a community to just chitchat, i.e., they did not have a specific topic to discuss. The chitchat discussion was conducted for the sake of interpersonal communication. The other discussion type was conducted by people who join a community to discuss a specific topic they share with each other. This discussion type was threaded and goal-oriented.

The second factor was type of anonymity, which could be nameless anonymity (the most prevalent), or handle anonymity using screen names. The existence of corporate anonymous blogging is doubtful except in whistleblower and customer feedback applications.

Thirdly, there was the relative use of jargon, emoticons. ASCII character combinations or emoticons [☺], deliberate misspelling and other forms of expression.

A clever use of clues in the text allowed machine encoding of eight indices. Of those, content length and interaction predicted discussion type communication while speed and activity in a thread predicted chitchat communication.

Managing the flow of information to reduce overload on the one hand, or boredom on the other are important technology goals. Increasing the possibility of creative emergence and enhancing group creativity are important goals for social intelligence software. Specifically, the idea is to provide cognitive and intelligent stimuli while minimizing distractions in the process of communication among group members. Evaluating exactly what is optimal remains a topic for future research (Miura & Shinohara, 2005).

Until recently social media were not usually real-time chat tools. As such they definitely controlled the rate of information flow in discussions. Various commercial variants incorporate instant message functions. Briggs, et al. (2003) claimed a multidimensional benefit to managing cognitive load in collaboration systems. In 2009 a significant new topic in among social media practitioners and researchers is the role of the microblogging service, Twitter (www.twitter.com) in which messages are limited to 140 characters. The issue could be summarized by the questions, "How many 'pages'

called 'tweets' does one want and from how many people arriving on your phone or to your computer?" At what point do the distractions or cognitive overload outweigh the benefits?

Stafford, Stafford & Schkade (2004) found a social gratification for the Internet that adds to process and content gratifications many researchers have found for television and other mass media. In that research respondents indicated their perceived level of importance on 45 descriptive traits that described potential uses and gratifications for the Internet. The scale was a seven-point semantic differential anchored by "very important" and "very unimportant." They found three factors, process gratifications, content gratifications and social gratifications. The concepts or traits in the social category were chatting, friends, interaction, and people.

The voluntary nature of most social media leads to the belief that the uses and gratifications perspective could also be employed. It is likely that organizational culture and organizational climate strongly influence blogging behavior. Blogs raise fundamental issues of self-presentation in accordance with the theories of Goffman (1959).

As technology made possible by the Internet, blogs and other social media appear to constructively add a desirable social dimension to content and process functions. Purveyors of social media software make the claim! Both content and process are said to be important, *i.e*. provide competitive advantage to, organizations.

Kelleher and Miller provided evidence that organizational blogs provide a "conversational human voice" compared to comparable material on a web site. Applying the approach to public relations, they also found that conversational human voice and

communicated relational commitment correlated significantly with the relational

outcomes of trust, satisfaction, control mutuality, and commitment (Kelleher & Miller,

2006).

As a concluding note on the uses and gratifications perspective, a secondary

analysis of 2006 Pew "gadgets" survey data showed a link between Internet use and

interpersonal trust (Beaudoin, 2008). Internet use mediated between "social resource

motivation" (a desire to keep in touch with a group) and a one-item measure of

interpersonal trust[2].

G. Networks and Social Capital

Social capital made possible by networks between people is the final key concept.

While the specific details of each respondent's network are beyond the scope of this

research, implicit in much of the research discussed is the concept of the social network,

the building of community. Networks are the ever-present mechanism through which

social capital is gained or expended. The concept of social capital has been defined in

several ways. One of particular merit for evaluating social media is one of Lin's: "Social

capital . . . [is] *investment in social relations by individuals through which they gain*

access to embedded resources to enhance expected returns of instrumental or expressive

actions" (2001 17-18, italics in the original). Of note are the two kinds of expected

returns that we may characterize as a knowledge dimension and affect dimension.

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[2] The Pew Internet and American Life Project is scheduled to release in September 2009 a dataset from its 2008 survey on the networked worker. That dataset also has a trust question.

A long-standing view of the social network (see discussion later in this chapter) was the concept of positive interdependence among group members as the basis of achieving group goals (Johnson & Johnson, 1997). They observed that social interdependence theory originated from Kurt Lewin's field theory that was formalized by Lewin's student Morton Deutsch. Field theory is an approach to adding up psychological and social forces (tensions) acting on individuals in a "phase space." Lewin may be credited with breaking down sharp divisions between the proponents of psychological and social theories. Socially constructed tensions can move the individual to satisfy needs thus reducing tensions (Lewin, 1951).

Systems of collaboration are the heart of network organizations. But technology is not the key element – it is necessary but not sufficient. The key element is "mentality" – networking inside and outside the firm (Castells, 2000). Fukuyama (1995) claimed that the most important interaction concept is "spontaneous sociability" because it provides a capacity to form new associations and work within the rules of a new group.

Ba (2001) also noted the importance of sociability. Socializing helps build, and later sustain, information-based as well as the regularity or normality requirement of sociologically-based trust. Ba used game theory to show that community-based trust will be effective provided that the parties within a community have repeat transactions, fixed identities, and the previous history of transactions is common knowledge. These are exactly the conditions of a fostered by a blog with postings and comments being by identified individuals.

Strong ties in knowledge worker teams were significant predictors of knowledge creation capability and new product introduction (Smith, Collins, & Clark, 2005). The

finding of the importance of strong ties -- remembering the crucial role of constructive dissent – complements the classic findings on the importance of weak ties made by Granovetter (1973) and may be a consequence of the nature of the tasks involved. Weak ties bring in contacts and ideas from outside the employee's immediate work group. There is a complementarity, a balance, of weak and strong ties (Burt, 2001; Reagans & McEvily, 2003; Reagans & Zuckerman, 2001). That balance may be fostered by social media and other communication opportunities.

Strong ties promote sharing of knowledge through social cohesion. Social cohesion refers to strong third-party connections surrounding individuals who may share knowledge (Reagans & McEvily, 2003). The third-party connection create the norms measured by Bock, et al. (2005).

Cohesion is the concept of network closure. In network closure the alter parties with strong ties to ego have strong ties with each other. That form of social capital in the form of parents knowing each other is cited by Coleman (1988) in reducing high school dropout rates.

Burt cites numerous studies including his own showing that for individuals, the "structural hole" form of social capital, that is connections to outside contacts not duplicated in ones own group, is more important than network closure for job evaluation, team achievement, early promotion, large bonuses, and salary. Ideally social capital includes both strong ties within the group (closure) and members with non-redundant links to outside contacts (brokerage) who may provide different knowledge and perspectives (Burt, 2001, 2005).

While closure can increase group productivity, Burt reported it also as a dangerous and powerful force with dimensions of bandwidth and echo. On the one hand, bandwidth provides improved information flow and connectedness in groups. On the other hand, echo can foster "ignorant certainty" (Burt, 2005).

The popularity of social and business networking services on the Internet has never been higher. Witness the popularity of MySpace, Facebook, YouTube, and the more professional LinkedIn. Their challenge as used by business is to maximize the benefits of brokerage and closure while minimizing the risks of echo, e.g., gossip.

The theoretical model of Adler and Kwon (2002) provides a useful framework for how social capital develops in modern organizations. Social relations exist in a space that is somewhere between a hierarchy and a market. Depending on the firm, the opportunities, motivation and ability to increase social capital vary by both the structure and content of social relations.

H. Comparison of Key Theories and Articles

Social media can be approached from several theoretical perspectives. The principal ones for this research are summarized in Table 2.4 below. All of them have organizational climate or culture constructs. Trust or trust-related variables such as autonomy are prominent variables in each model.

In summary, a wide range of middle level theories can be applied to social media. Each of them raises many interesting questions and provides guidance on changes to look

Table 2.4 Key Theories and Models

Article	Key Theory or Paradigm	Independent variables	Mediating variables	Dependent variables
Collins & Smith (2006)	Commitment based HR practices	Commitment-based HR practices	Social Climate: *Trust, *Cooperation, *Shared codes and language: *Knowledge exchange and combination	Firm Performance: *Sales growth, *Revenue from new products / services
Janz & Prasarnphanich (2003)	Knowledge-centered culture; intellectual capital; knowledge management and organizational climate; learning culture; tacit knowledge sharing	Autonomy: *People, *Planning-related, *Process-related Organizational Climate: *Risk *Reward *Warmth *Support	Cooperative Learning: *Positive interdependence *Promotive interaction *Group process	Work Satisfaction: *Genera *Growth satisfaction Work Performance: *Efficiency *Effectiveness *Timeliness
Lee & Choi (2003)	Knowledge management enablers and processes; systems thinking; leadership & knowledge processes; Nonaka's knowledge creation process	Culture: *Collaboration *Trust *Learning Structure: *Centralization *Formalization People: *T-shaped skills *Information Technology: *IT support	Knowledge Creation Process: *Socialization *Externalization *Combination *Internalization	Organizational Creativity Organizational Performance
Bock, et al. (2005)	Knowledge-based view of the firm; theory of reasoned action (TRA); motivation; economics: extrinsic reward; social psychology: anticipated reciprocal relationships; sociology: fairness, innovativeness & affiliation	Anticipated Extrinsic Rewards Anticipated Reciprocal Rewards Sense of Self-Worth Organizational Climate: *Fairness *Affiliation *Innovativeness	Attitude toward Knowledge Sharing Subjective Norm	Intention to Share Knowledge: *Explicit knowledge *Implicit knowledge

Table 2.4 (Continued) Key Theories and Models

Article	Key Theory or Paradigm	Independent variables	Mediating variables	Dependent variables
Reagans & McEvily (2003) Burt (2001, 2005); Lin (2001)	Social networks and knowledge transfer: Social cohesion and network range. Social capital.	Network size Knowledge breath Knowledge codifiability Demographics Tie strength Network density Network diversity		Ease of knowledge transfer; advancement in career. Business success

for as new social technologies are introduced. A host of related questions emerges

concerning the practical application of those theories. How do the communicative traits

of a person carry over from the social medium to a physical or virtual meeting? Do blogs

make up for language or cultural barriers? Some researchers as previously noted believe

that there must be challenges and disagreement -- at least moderate degrees of

dissatisfaction -- to facilitate innovation. In Lewin's perspective that would be a force or

a need. To what extent are these present, or facilitated by, organizational social media?

What are the communication situations, or conditions or affordances in which a group

(re)structures itself so as to expand its knowledge absorption capability? The important

questions to be investigated as a consequence also have the attraction of being a line of

research that has many unanswered questions.

CHAPTER 3
RESEARCH HYPOTHESES

This chapter necessarily narrows the scope of the research into two parts. The first is relating some basic fact-gathering, documentary and descriptive information concerning policy and participation to perceived value of social media. Originally conceived as also surveying goals of social media firms, that must be left for future research. The second is an exploratory and hypothesis-testing part concerning social media use and trust plus other organizational climate variables. Overall, data are needed for descriptive statistics – the extent and nature of the phenomenon – and to test specific hypotheses about social media influence on organizational climate.

Several research streams have investigated links between organizational climate and intention to share knowledge, knowledge sharing, knowledge creation, innovation and creativity, and cooperative learning. That list represents the instrumental aspect of social capital and trust are expressive aspects (Lin, 2001). As discussed earlier, social media have a basis for contributing to both kinds of actions, instrumental and expressive. The true complexity of how social media fit into organizational climate is probably like Figure 3.1 below. That is too complex to be studied in this research. A simpler model is needed. Of course complex models can be segmented so as to focus on a smaller set of relationships.

Chapter 2 reviewed several relevant research papers connecting desirable organizational climates with beneficial outputs for the firm. This study of social media proposes that trust in peers and management is facilitated by the technology and by the corporate environment. These benefits included increased productivity, job satisfaction,

knowledge sharing, and innovation, to name a few. Each of the papers addressed

differently the question of relating organizational climate to productivity. The key

variables of each are briefly reviewed in turn. In the discussion "blogging" and "social

media use" are used interchangeably.

In the Janz & Prasarnphanich (2003) model (See Figure 2.1), blogging could

influence both organizational climate and cooperative learning. Their model is built on

theories of organizational learning, including cooperative learning, autonomy (self-

direction, empowerment), organizational climate (risk taking, rewards, warmth and
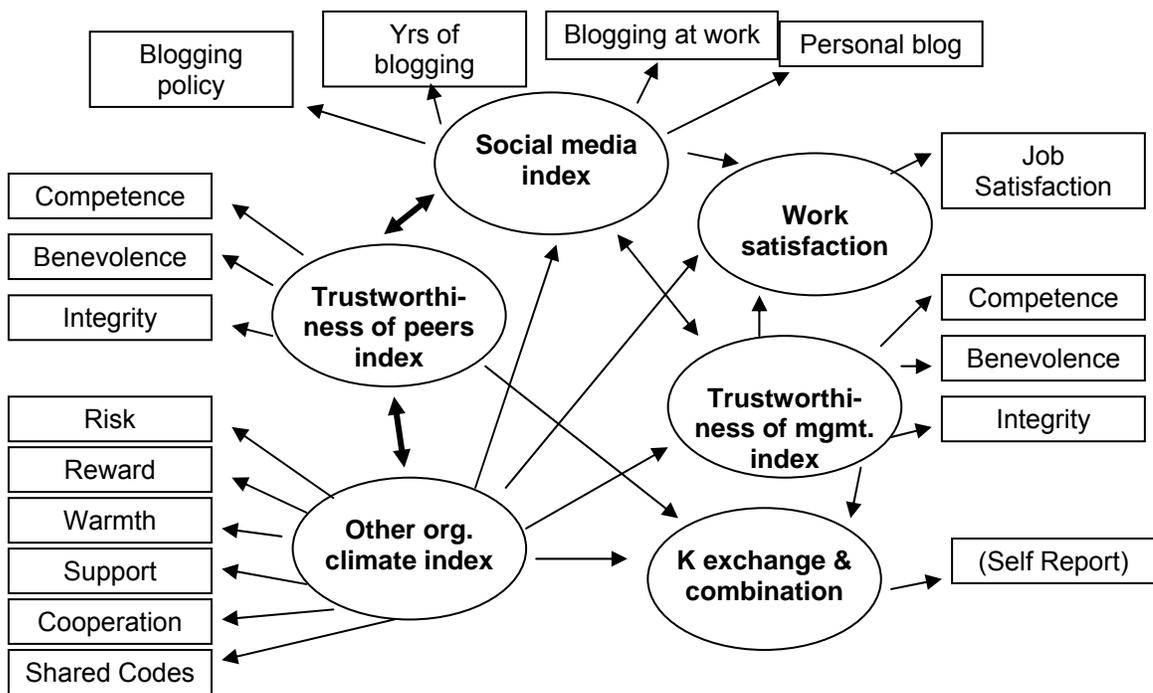
**Figure 3.1. "Real World" Complexity of Organizational Climate, Trust, Work
Satisfaction, and Knowledge Exchange Model.**

supportive environment), and cooperative learning (individual and group performance,

social skills, knowledge application and evaluation thereof). Granting of autonomy

implies trust. In their conclusion, they note that in their study cooperative learning and

autonomy were predominantly face-to-face phenomena. They suggested that knowledge management in a "wired," virtual context should be investigated. Social media would be one element in a virtual context. Also for future study they recommended a process view of "learning as evidence of knowledge." They also believe their data support the positive impact of cooperative learning on worker satisfaction, a key variable in increasing worker retention.

In the Bock, et al. (2005) model (refer back to Figure 2.2) social media could affect, or be affected by, the organizational climate, the subjective norm on knowledge sharing, and attitudes toward knowledge sharing. Their key variables include sense of self worth (not shown below but also significant), anticipated reciprocal relationships, and organizational climate. Their elements of organizational climate included " . . . fairness (a trusting climate), innovativeness (a climate that is tolerant of failure and within which information freely flows), and affiliation (a climate characterized by pro-social norms.)" (Bock et al., 2005, 91).

Similar plausible blogging effects would be found by investigating the consequences of blogging in the model of Lee & Choi (2003) shown simplified as Figure 2.3. Their statistically significant knowledge management enablers – alternatively the term organizational climate applies – were collaboration, trust, learning, centralization, and IT support. The relationship with centralization was negative, as expected. That would be similar to the autonomy variables in Janz & Prasarnphanich (2003).

The above are suitable organizational climate models into which blogging could be inserted. However, a fourth one was selected that also could be augmented so as to demonstrate the effects of blogging. Recall from Chapter 2 the Collins & Smith (2006)

model that linked HR practices to firm performance through organizational climate and

knowledge sharing. This research focused on the central links of that model in Figure 3.2

inside the dashed-line rectangle.
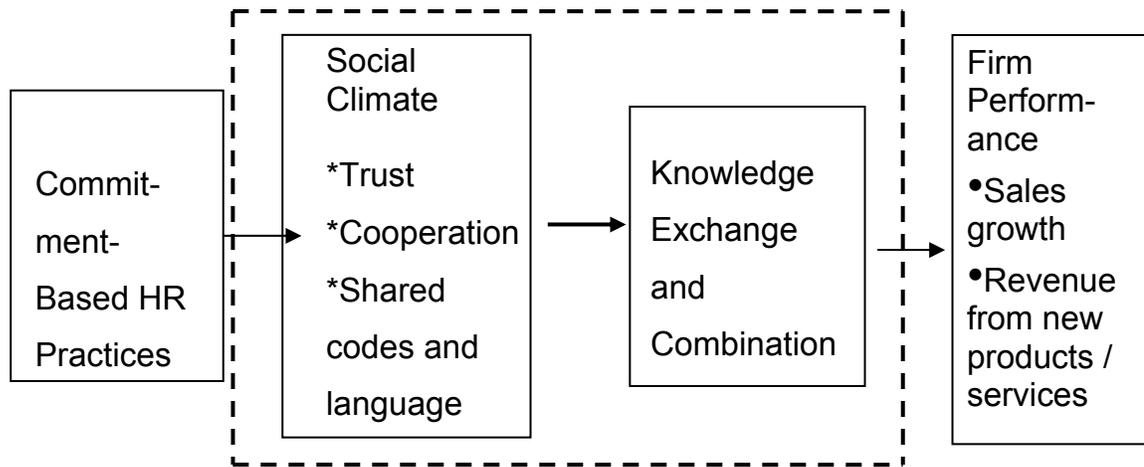
Adapted from Collins & Smith (2006), Figure 1, p 545

Figure 3.2 Collins & Smith (2006) HR, Social Climate, Knowledge Exchange, and Firm Performance Model Showing Elements for this Social Media Impact Research.

They have a compact, practical set of measures with sufficient reliability to which

blogging variables could be added. The HR variables -- and focus on social climate,

blogging, and knowledge exchange and combination shown within the heavy dashed line

rectangle. (Firm performance would be for future work, facilitated by use of public firms

that necessarily publish financial data.)

The trust measures used concerned employees' trust of each other. The theory

predicts that employees who trust each other will exchange and combine information

more in productive ways. In addition, because a climate for sharing likely starts with

leaders, the hypothesis that trust in management also influences or is influenced

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positively by organizational climate and knowledge sharing was stated. Therefore both

trust in coworkers and trust in top management were measured.

Collins & Smith analyzed their data by regression analysis and found statistically

significant results. The research partially replicated the Collins & Smith (2006) findings

as is discussed in the results chapter. The data of this research necessarily worked with

the actual measurements throughout – individual scores -- rather than using company

averages for certain variables. Collins & Smith properly use a firm HR practices average

based on the firms' HR practices being uniform within the firm and satisfactory statistical

consistency of perception within the firm. Breaking out the trust variable, it accounted

for (added) about 10% of the variance between HR practices and firm performance in

regression analyses. Overall, 50 – 59 % of the variance relating HR practices to new

products and services, or to sales growth, was explained by social climate. Knowledge

exchange and combination added over 20% of variance accounted for. Recasting the

center of Figure 3.1 as structural and measurement model produced one as in Figure 3.2

below.

This research attempted to replicate the model and then extended it by asking

what social media could add. As previously noted, several models could serve as the

basis for testing the contributions of blogging and social media. Collins & Smith (2006)

have a parsimonious set of validated, theoretically-based measures. Parsimony is

particularly consequential because additional questions were asked of respondents about

social media participation.

Several theory-based alternatives could be applied. Omitting the measurement

model at this point, helps focus attention on the structural model displaying the key

conceptual relationships. In simplest form, Figure 3.3 below represents the central

conceptual hypothesis of this research. Namely, social media produce beneficial effects

on knowledge sharing while increasing trust in management and peers. The model below

represents the goal for this research. Beyond that complexity, the model becomes

significantly less practical, less theoretically supported, and "nice to have" rather than

essential. Success of the bi-directional relationship(s) would confirm the virtuous circle

hypothesis.
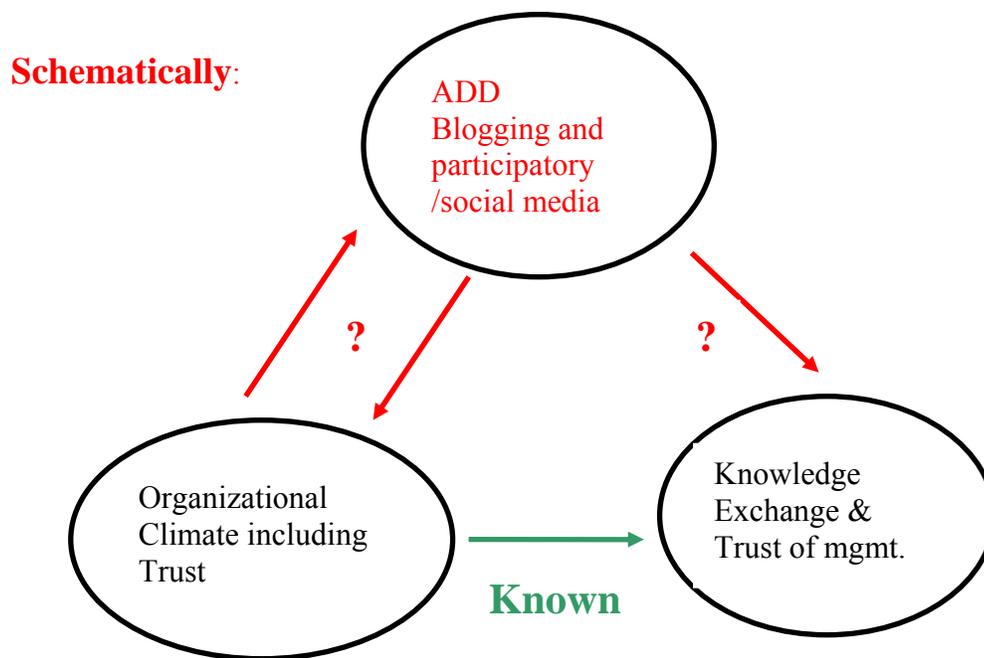
Figure 3.3. Conceptual Model for Examining Social Media Influence

In formulating the research it was recognized that structural equation modeling

might not be possible and in that case multiple regression would be used.

Trust in peers can be broken out explicitly in other models. In addition new or alternative paths are theoretically justifiable between climate and trust in management, and trust in management and knowledge exchange.

Some small modifications to the model are justifiable. For examples, the climate measures may be split into two, or the job satisfaction variable added. Recall that job satisfaction has a demonstrated positive effect on firm productivity and other firm performance variables. Trust in management is an extension of the Collins & Smith model.

It is important to note that social media behavior is not the only intervening variable but may be one of several moderators. *Alternative models may give better fit to the observed data.* Survey data are required from social media contributors (potential and actual) – employees – on general organizational climate, individual trust attitudes, recollection of company social media policies, attitudes toward knowledge sharing, and reports of social media activity. In other words, data must be gathered on the state of social media and blogging in the organization and attitudes and perceptions that are predicted to influence attitudes and behaviors related to social media.

A. Model Hypothesis

Hypothesis 1: Social media use fits or augments a model linking organizational climate and knowledge sharing and trust in management.

A whole host of interesting research questions flow from potential organizational climate effects such as: What are the company culture variations in the use of blogs and

wikis? What is the company climate on contributing to social media? Do firms perceive

that social media and effective because of the knowledge content or promoting sociality?

To what extent are blogs used for building common ground? For agenda setting? It is

beyond the scope of this research to get data for sweeping high level goals so more

specific hypotheses are:

B. Trust Hypotheses

H2.1: Organizational trust (perceived trustworthiness of coworkers & management on

the dimensions of benevolence, competence, integrity) correlates positively with

the adoption of social media.

H2.2: Organizational trust correlates positively with the use of social media.

Trust-building activities in advance of formal collaboration can build social

capital. As noted in the previous chapter, social capital is ". . . networks of strong,

crosscutting personal relationships developed over time that provide the basis for trust,

cooperation and collective action" (Nahapiet & Ghoshal, 1998, pp., 243, 243). In other

words the social functions of social media would be promoted before the need for

employment or activation on specific projects.   There would be building of trust through

social networks and social exchange. ("I know remote colleagues better because of the

blog.") The literature reviewed in the previous chapter studied trust perceived by

individuals embedded in organizations.

C. Knowledge Exchange & Cooperation Hypotheses

H3.1   The length of time since adoption of social media correlates positively with organizational climate dimensions of knowledge exchange and cooperation.

H3.2   The use of social media (reading of, posting to, number of blogs, online networking, etc.) correlates positively with organizational climate dimensions of knowledge exchange and cooperation.

D. Social Capital Hypotheses

Strong ties in knowledge worker teams were significant predictors of knowledge creation capability and new product introduction (Smith et al., 2005). The finding of the importance of strong ties -- remembering the crucial role of constructive dissent -- does not conflict with the classic findings on the importance of weak ties made by Granovetter (1973) and may be a consequence of the nature of the tasks involved. Weak ties bring in contacts and ideas from outside the employee's immediate work group. Strong ties promote sharing of knowledge through social cohesion. There is a complementarity, a balance, of weak and strong ties fostered by blogs and other communication opportunities (Reagans & McEvily, 2003).

H4.1: Individual participants will perceive work-related social media to be more desirable if those media build strong ties – cohesion, closure – within their organization.

H4.2: Individual participants will perceive work-related social media to be more desirable if those media build weak ties – brokerage – within and outside the firm, i.e. they bring in people outside the primary work group.

Finally there are some exploratory questions on whether and how social media may change the nature and patterns of discourse and interaction.

H4.3:   Employees who use social media will be more likely to favor social media as substitutes for email.

H4.4   Use of social media will stimulate the use of phone contacts.

H4.3 is a probe about social media providing a method of working more efficiently. Worker visits to social media may cause less interruption than email. H4.4 is a partial replication of the Jackson, et al. (2007) finding. The new media may stimulate traditional communication as ways of reinforcing ties to colleagues and new contacts made via social media. Mindfulness and attention are also theoretical bases for such explorations.

In summary, several practical and theoretical questions are to be addressed by this research. The selection of specific measures to address the hypotheses is discussed in the next chapter.

CHAPTER 4
RESEARCH METHODOLOGY

Case studies, surveys, and laboratory experiments are ways to investigate the questions and hypotheses of this research. In some cases, the questions dictate the approach. In others, there is a variety of tools that would be suitable. Each is discussed briefly below.

General case studies of the blogging of specific firms, mainly concentrating on public relations issues, have been done. For example see the book *Naked Conversations* by Scoble & Israel (2006), and more are undoubtedly in work. Wright's (2006) book, *Blog Marketing*, does devote substantial space to the benefits of intrafirm blogging. Detailed case studies of specific firms and the changes introduced by blogging would be of great interest but each organization is a special case. There is also likely to be substantial variation within firms as well (Brzozowski, 2009). The case study blog books exist; now studies on more varied media would be desirable.

Laboratory experiments could be practical. If carefully done with respondents assigned randomly to treatments. If drawn from appropriate populations, experimental data would overcome challenges to generalizability. Experiments would test hypotheses from survey research demonstrating only associations. The key goal would be to get findings on causality. Laboratory experiments have the challenge of being sufficiently like real organizational conditions and for a phenomenon that may be spread over years. Field experiments have challenges of producing random assignments to treatments.

Survey research was chosen because it is adequate to provide useful answers in the context of replicating and extending an existing model. Some clues as to causality

may be inferable because of variation in social media experiences in particular those that may have been facilitated by actions at varying times in the past.

Choices were made in parallel with other research requirements, such as human subjects clearances and finalization of more precise research questions. Time and money were practical considerations. A sample from which generalizations could be made would be an important contribution as much of the past blog research has been ethnographic in nature based on small "representative" samples. Resource people within UH Manoa and social media consultants were asked about ways to approach firms or possible cooperation with existing research projects.

A major choice was made to reduce the separate policy survey of many firms and concentrate on the survey of individuals and their organizational climates. The concepts of organizational climate and trust are applicable to organizations beyond businesses. For example, blogs are a method of citizen involvement in schools and civic organizations. Non-profits make extensive use of social media, perhaps more so than companies due to outreach often being a core goal.

A. Study Populations

In an ideal research design, random samples of individuals from a random selection of firms and work groups within firms would be surveyed. Furthermore, a longitudinal design would better support practical and theoretical claims of causality but that must be left for the future. Challenges to validity will be addressed concerning the compromises required to make this study practical.

The original proposal called for study of two populations. The first consisted of MBA students from business schools in Hawaii. The second was the members of at least one work group in one firm with substantial blogging participation among employees. Neither option worked out according to the plan nor in retrospect did that necessarily turn out to be a bad result as will be explained below.

Sample size

Structural equation modeling is a large-sample technique. Kline offered that over 200 cases could be considered "large." Sample sizes from 100 to 200 could be considered medium (Kline, 1998). Therefore the number of cases was set to be 200 or more. Another important criterion is the number of cases per indicator. The rule of thumb that suggests that 10 is the minimum is commonly cited but must not be blindly applied (Kline, 2005).

Use of Students

Use of students is frequently a source of criticism of social science research. MBA students would have been a good choice because they represent a wide range of industries, age, and experience. Many are employed while attending school. Many MBA programs require that students have business experience. Many are international students. MBA students are quite computer-savvy while not selected on the basis of social media experience. Yet it is probable that some of them have considerable social media experience both personally and related to work. For various reasons, despite

significant effort, no meaningful set of MBA students in Honolulu was reached and an alternative group was use as described below.

Pilot Study

The respondents in the pilot study were upper division undergraduates and masters degree students in a computer security classes at a West Coast state university. They received one percent extra credit for participation. The survey was done in February 2008. The response rate was 90%. The pilot study produced significant refinement of the questionnaire particularly in trimming and clarifying the social media use questions and partially revising the shared codes scale.

Main Study: Convenience Sample

Surveys within a few firms would limit generalizability – as of course would any non-random sample of employees. Special conditions for social media in one firm could differ significantly from others. A random sample of employees drawn from a large number of firms would be ideal. Working down from that ideal, the achievable was a convenience sample across a broad range of industries. The original plan for this research was to do a good survey of employees in one firm gathering enough data to test the model. As the survey was online, adding respondents would have been of modest cost. Even a small sample of firms, as proposed, would provide valuable comparisons among groups. Upon reflection, the use of a pool brought in people from many different companies and was representative of a wide range of organizations.

Getting access to companies, for example, to piggy back on their employee surveys is difficult. Numerous requests were made. Despite assurances, there were

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concerns about privacy, over taxing employees, questions about the practical value, and

arrangements with established survey firms. The latter are a significant problem because

they regard the questions a proprietary, unlike the measures used in this research. The

companies build up data from a number of companies and thus provide comparisons

between specific clients and "norms." The consequence of that experience lead to use of

a pool. (Consulting companies also maintain pools of survey respondents who typically

receive prizes or access to research. In part, they join because of an interest in social

media.)

A goal of 235 respondents was set in advance. That target sample size was set by

prearrangement and it was dictated only in part by the funds available.   An important

consideration was to have enough respondents to give a small structural equation model a

reasonable subject-to-item ratio. Another consideration was lack of precise knowledge

about the quality of the data beforehand that would have justified a larger investment.

There are several positive characteristics of the pool. One is that data are

available on the non-responders. Another is that the pool contains a wide range of

demographic characteristics and it was not constructed of people interested in social

media.

Respondents in the main study were drawn in early 2009 from the Syracuse

University Study Response Project pool. That pool consists of about 50,000 people who

have signed up as volunteers to take surveys (StudyResponseProject, 2009). The

selection criteria were persons 18 years of age or older, in the United States and

employed at least half time. Each person attempting the survey received a $5 electronic

gift certificate for Amazon. A sample of 350 was drawn and sent a notice of the survey a

week in advance. They were then invited to take the survey. It was shut down after

reaching 259 potentially valid responses in six days. (The University of Hawaii

Committee on Human Subjects does not allow "lotteries" for larger prizes. Interestingly,

the Syracuse pool later in 2009 stopped taking surveys with prize drawings due to

declining response rates.) Twelve people who started the survey, stopped and then

restarted later. (There is no way to save the survey and continue on later.) That left 247

for further consideration.   Five had some data but not enough to be useful, and seven had

no data but had to be given the reward under the Institutional Review Board rule that

participants can leave at any time. The remainder was 235 people in the sample. Some

of those have a few missing items. Filling in with the average of their other responses in

specific scales or calculation did not materially change the size or statistical significance

observed correlations.

<div align="center">Age Distribution</div>

Compared to Pew's estimate of the age distribution of a national sample,

employed and unemployed, this study had fewer people in the 18-24 category, more in

25-54, and fewer in 55+. That distribution is consistent with the selection requirement of

employment. See Table 4.1 below.

Table 4.1 Age Distribution of Respondents

This study			Pew*
Age	Frequency	Percent	Percent
18-24	11	4.7	11.3
25-34	56	23.8	17.0
35-44	64	27.2	19.7
45-54	75	31.9	20.2
55-64	19	8.1	14.8
65+	10	4.3	17.1
Total	235	100.0	100.1

*Pew Internet (Madden & Jones 2008). National population estimate

Education distribution

As is evident from Table 4.2 below, the study population was better educated than

a reference national population used by the Pew Internet study project.

Table 4.2 Education Distribution of Respondents

Education	This study percent	Pew national sample percent composition.*
Less than HS	1.3%	14.1%
HS grad	12.5%	35.1%
Some college	39.2%	23.3%
College grad	47.0%	27.5%

*Madden & Jones (2008)

Characteristics of Respondents versus Non-respondent*s*

In surveys a common threat to validity is the self-selection of respondents. In this

study there was selection for those who responded quickly, that is within a week.

Because of the nature of the pool -- an advantage -- some demographic information is

available on those who participated and those who did not. Details on the respondents

are given in Appendix C along with the details of the comparison with the non-

responders.

Gender

There was not a significant difference in the responders vs. non-responders by

gender as confirmed by the Chi-Square statistic (.501, df = 1, significance = .479). The

distribution was 51% male and 49% female.

Education

The education of respondents ranged from less than high school (3) to holders of

advanced degrees (11). The differences in education between responders and non

responders were not significant. (Chi-Square = 10.395, df = 7, p = .167).

<div align="center">Age</div>

Nor was there a significant difference in ages between responders and non-

responders who ranged from 18 to 75, however 67% were 39 years or younger. (Chi-

Square = 7.672, df = 7, p = .362).

<div align="center">Occupation</div>

The sample contained people from 39 different occupations raising the chance of

differences between respondents and non-respondents on frequencies of the various

occupations. Despite that fact the χ^2 statistic did not reach normal levels of significance.

(Chi-Square = 49.216, df = 36 p =.070).

B. Selection and Operationalization of Variables

Social Media Use

The social media experience and perceived effects and value of social media were

surveyed using a questionnaire as shown in the Appendix A. Experience questions were

asked about how long the person used various types of social media, the level of social

media use per week, and personal versus work-related social media experience. For

business use, questions probed the perceived personal value and perception of the

objectives of the firm in allowing and/or promoting blogging. New questionnaire items,

drawn from the recent blog literature e.g., Jackson, et al. (2007), and my hypotheses,

were pilot-tested before the main surveys. However, the most important consideration

after inclusion of essential validated scales was to limit the number of questions so that respondents would be less likely to give up before completing the questionnaire.

The questions on number of hours per week spent on social media at home and at work were derived from the pilot test that frankly offered too many choices of units.

The check list of specific social media actions in the past 30 days was adapted from the book *Groundswell* (Li & Bernoff, 2008). The list has been discussed widely among social media consultants in their online (of course) venues. The list has face validity and the adaptation extended the use to make a distinction between personal and work / professional social media use.

Trust

There are many trust measures in use. The challenge is to select one set which has the best balance between validity, reliability, and brevity. Serva, Fuller & Mayer (2005) focused on reciprocal trust between development and management teams. It is built on good theory but would require significant rewriting. Lee & Choi (2003) is another good set.

Trust in Coworkers

The main scales were ones used with prior research related to the model being expanded. Thus, trust in peers was evaluated with the Collins & Smith (2006) scales – 12 items total, four each for trust dimensions competence (CWCSS), benevolence (CWBSS), and integrity (CWISS). Those scales were themselves adopted from the well-known Mayer, et al. (1995) theory and the Meyer & Davis (1999) empirical research. They have had many revalidations.

Trust in Top Management

The Meyer and Davis (1999) measures for management were also used. Similarly the respective trust scales for top management are TMBSS, TMCSS and TMISS for benevolence, competence and integrity trustworthiness respectively.

The trust scales are discussed further in the results chapter.

Other Organizational Climate Variables

Organizational climate is a multi-dimensional concept. "Climate refers to a contextual situation at a point in time and its link to the thoughts, feelings, and behaviors of organizational members."(Bock et al., 2005, 89) Climates exist for various desirable behaviors and may be considered as the manifestation of higher organization cultural values – including of course management theories.

"These climates represent employees' perceptions of organizational policies, practices, and procedures, and subsequent patterns of interactions and behaviors that support creativity, innovation, safety, or service in the organization."(M. G. Patterson et al., 2005, 381) The concepts are frequently described as "structural assurances."

Several recent and well-validated measures are available. Selection must involve careful choices. Ones used should be those accounting for the most variance while being consistent with the theoretical perspective. The list below shows the range of potentially applicable published scales considered and does not reflect an attempt to use many of them.

One choice would be the set of Patterson, M. G. et al. (2005). Their complex list consists of autonomy, integration, involvement, supervisory support, training, welfare, formalization, tradition, innovation & flexibility, outward focus, reflexivity, clarity of

organizational goals, efficiency, effort, performance feedback, pressure to produce and quality. While the scales have support in the literature, the focus appeared to be too broad.

Another choice is Bock, G.-W. et al., (2005), from which the intention to share knowledge was taken. Other variables in that research but not used include fairness, affiliation, innovativeness, attitude toward knowledge sharing, anticipated reciprocal relationships, subjective norm – on sharing and sense of self-worth. Those are all reasonable choices but they came from a different theoretical approach. (The study provides good approaches for future research!)

Janz & Prasarnphanich (2003) have another good model perhaps somewhat specialized to software development. Climate variables in that research include reward, warmth, support, risk (tolerance) and autonomy.

The last and most appropriate choice for this project is Collins & Smith (2006) because of its direct theoretical fit and parsimony. In addition to the trust scales mentioned above, the items for cooperation were used as were shared codes and language.

Knowledge Exchange and Related Measures

The Collins & Smith (2006) measures for knowledge exchange and combination were used, consistent with the model.

The intention to share knowledge items from Bock, et al. (2005) were used for comparison with the Collins & Smith items.

Since work satisfaction is well-documented as a predictor of productivity, that variable was added as well since it would be an important justification for companies to use social media. Items were taken from Janz & Prasarnphanich (2003).

C. Data Collection

Data collection was by web survey for general employees and for students. The software tool was Survey Monkey (www.surveymonkey.com) which provides SSL encryption and other effective security measures. Of equal importance, there are more than adequate features for construction of attractive, moderately complex questionnaires. The surveys in the Appendices were printed from the Survey Monkey facility.

D. Scales

The previously validated scales were taken from prior research and, with one exception, had satisfactory reliability. Negatively worded items were recoded and the items were summed. The reliabilities are reported in Table 4.3 below. Note in the table that the shared codes construct had unsatisfactory reliability. Despite selection of items based on the pilot study, the shared codes scale did not prove satisfactory and was dropped from the analysis.

The integrity dimension for trust in top management seemed to cause respondents some trouble in that it had missing items. The respondents may have been reluctant to think negatively about management. Integrity items tend to cross load on benevolence as confirmed with a factor analysis.

Table 4.3 Reliability of Previously Validated Scales

Scale Name	Variable Name	# of items	Cronbach Alpha	Notes
Trust in coworkers, integrity	CWISS	4	0.88	
Trust in coworkers, benevolence	CWBSS	4	0.92	
Trust in coworkers, competence	CWCSS	4	0.89	
Cooperation	Coop	4	0.80	
Intention to share knowledge	IHSSS	3	0.79	
Shared codes and engagement	SCCWE	4	0.510	Unsatisfactory. Many missing, not used
Knowledge exchange & combination	KEscale2	8	0.88	Missing replaced with mean. Made no difference.)
Job satisfaction	JSSS2	2	0.77	One reverse-worded item dropped
Trust in management, competence	TMCSS	4	0.88	
Trust in management, benevolence	TMBSS	4	0.93	
Trust in management, integrity	TMISS	4	0.77	48 missing
Subjective norm on sharing info	SHNORM1	1	n/a	Check variable
Autonomy	Autonomy1	1	n/a	Check variable

Factor analysis of the scales provided several insights and the basis for some

adjustments (See Table 4.4 for the final result.). The previously validated scales were

reproduced if the factor analysis was forced to the number of factors based on previous

research. If left with the typical selection of eigenvalues of 1.0 or greater, one fewer

factor was computed. One fact that became quite evident was that the reverse coded

items all loaded on their own factor. While there was a basis for including them in their

original scales, they were dropped as they had little effect on the reliability of the scales.

Table 4.4 Factor Loadings of Organizational Climate Scales

Rotated Component Matrix(a)

	Component				
	1	2	3	4	5
	TMTrust - trustworthi-ness of mgmt	CWTrust - trustworthi-ness of coworkers	KEtrim - knowledge exchange & combination	CWC - competence trustworthiness of coworkers	ISHnew - intention to share information
CWI1	0.262	**0.331**	0.331	0.435	0.336
CWI2	0.288	**0.515**	0.263	0.395	0.096
CWI3	0.259	**0.557**	0.356	0.304	0.326
CWI4	0.301	**0.516**	0.362	0.332	0.348
CWB1	0.338	**0.734**	0.265	0.257	0.190
CWB2	0.192	**0.792**	0.233	0.204	0.108
CWB3	0.298	**0.769**	0.170	0.200	0.161
CWB4	0.224	**0.652**	0.342	0.288	0.044
CWC1	0.121	0.230	0.166	**0.786**	0.209
CWC2	0.218	0.328	0.335	**0.683**	0.257
CWC3	0.192	0.261	0.277	**0.688**	0.142
CWC4	0.251	0.235	0.178	**0.697**	0.280
ISH1	0.200	0.034	0.284	0.285	**0.639**
Coop1	0.127	0.039	0.147	0.418	**0.576**
ISH2	0.137	0.234	0.111	0.046	**0.770**
ISH3	0.128	0.129	0.139	0.211	**0.795**
Coop5	0.398	**0.432**	0.530	0.184	0.206
Coop6	0.410	**0.448**	0.466	0.043	0.064
Coop7	0.209	**0.248**	0.497	0.443	0.276
KE1	0.255	0.210	**0.599**	0.277	0.446
KE2	0.216	0.225	**0.747**	0.257	0.113
KE3	0.311	0.384	**0.540**	0.165	0.318
KE4	0.349	0.359	**0.696**	0.208	0.121
KE6	0.355	0.161	**0.574**	0.335	0.122
KE7	0.219	0.304	**0.591**	0.250	0.336
JS1	0.505	0.290	0.193	0.251	0.321
JS3	0.466	0.374	0.025	0.085	0.360
TMC1	**0.761**	0.225	0.204	0.154	0.124
TMB1	**0.807**	0.356	0.170	0.078	0.094
TM4	**0.780**	0.229	0.274	0.084	0.116
TMC2	**0.775**	0.015	0.205	0.279	0.280
TMB2	**0.834**	0.208	0.185	0.174	0.053
TMI2	**0.791**	0.176	0.301	0.124	0.188
TMC3	**0.781**	0.023	0.095	0.252	0.285
TMB3	**0.810**	0.297	0.204	0.121	-0.002
TMI3	**0.828**	0.243	0.196	0.123	0.098

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. (a.) Rotation converged in 7 iterations.

For trust constructs there is a theoretical basis for considering distrust as distinct from

trust. That is, less trust is not the same as distrust (Kramer & Cook, 2004). For the other

scales respondent carelessness on reverse (negative) wording may be the cause of

decreased reliability despite a caution at the beginning of the questionnaire.

The varimax rotation is an orthogonal one. It was used as a conservative,

complementary approach to initial use of structural equation modeling that had problems

because of the colinearity of items. Acceptable solutions are given in the results chapter.

Based on preliminary data analysis and the examination of factor loadings, the

three dimensions of trust in management were collapsed into one. Benevolence trust of

management correlated slightly better with other positive organizational climate variables

than competence trust in preliminary analyses. However, faced with the factor loadings

and some test runs there was no clear basis for keeping separate the three dimensions of

trust for trust of top management. This is a matter for future research.

Table 4.5 New Scale Reliabilities

Scale Name	Variable Name	# of items	Cronbach Alpha	Notes
Trust in management	TMTrust	9	0.96	Item TMI1 dropped
Trust in coworkers	CWTrust	11	0.94	Includes 3 cooperation items
Knowledge exchange and combination	KEtrim	6	0.90	
Intention to share knowledge	ISHnew	5	0.84	Included one cooperation item and one item transferred from the knowledge exchange scale.

Trust of coworkers had a different outcome. Benevolence and integrity loaded on

one factor but trust in competence remained distinct. Cooperation loaded with

benevolence and integrity trust of coworkers. The cooperation scale was kept distinct for some analyses and combined with trust for others. The knowledge exchange and combination scale remained distinct but two reverse coded items were dropped. Job satisfaction was reduced to two items and kept due to its importance in many productivity studies. None of the adjustments appeared to make any significant change in the findings. The results including the scale names and the new scale reliabilities are shown in Table 4.5 and basic statistics are in Table 4.8. The cause of the slightly lower reliability of the intention to share information is covered in the discussion chapter.

E. Indices of Social Media Adoption and Use

A number of indices of social media use were created to characterize individual behaviors. They were estimated hours per week of social media activity, numbers of social media site profiles and number of different types of activity in the past 30 days. Two elements of company policy were surveyed – guidelines on use of social media with company identification and encouragement of use of social media.

Data Cleaning – Outliers

The social media indices are vulnerable to respondents' carelessness or deliberate inflation of participation. Therefore, responses indicating participation in the year 2000 or prior were recoded as missing except for internal directories. While it is true that various bulletin boards provided features similar to current social networking sites existed in the 1980's, their use was not widespread. So for example, it is not credible that significant numbers of people had Facebook-like profiles in 2000. This reduced extremes

in the company social media index. In any case, that index was not central to the

findings.

Similarly, those responders who indicated 18 or more hours – visibly outliers

from the rest of the distribution -- of social media use at work were marked as missing.

(The next highest was 14.) In all cases the effects of the adjustments would not have

strengthened any associations; quite the contrary, a few of social media correlations were

reduced. Therefore, censoring was appropriate under the circumstances as it worked

against rather than for the conclusions. There may have been a small benefit of excluding

people with probable excessive media use claims because they may have marked other

questions less than honestly. In other words, error variance was reduced.

Table 4.6 Outlier Data Points Marked as Missing

Variable or Index	Highest allowed	Number Marked Missing
Personal social media hours at home - SMhrPatHhrsT	23	2
Personal social media hours per week at work - SMhrPatWhrsT	14	4
Work-related social media hours at work – SMhrWatWT	14	5
Work-related social media hours at home - SMhrWatHT	19	2
Number of types of personal social media acts - PSMactsT	17	5
Number of types of work-related social media acts – WSMactsT	11	2
Company social media index per medium (2000 and prior excluded)	8	25

Table 4.7 Indices of Social Media Use and Company Policy

Index Description	Variable Name	Units	Notes
Cumulative years of company social media types	CoSMindexT	years	Additive index. More years and more types – e.g. blog, wiki, social network -- increase the total
Years of company policy encouragement of social media	SMEcouragYrsT	years	Number of years that the company has encouraged participation in social media
Company policy factor	CoPolicyFac	Years	No. of years of guidelines for social media use plus two times the number of years of encouragement of such use. Also trimmed.
Personal social media use at home	SMhrPatHhrsT	Hours / week	An index of personal use
Personal social media use at work	SMhrPatWhrsT	Hours / week	An index of personal use
Work-related social media use at work	SMhrWatWT	Hours / week	An index of work-related social media use
Work-related social media use away from work	SMhrWatHT	Hours / week	An index of work-related social media use
Number of personal profiles	NumPprof	Number	Number of primarily personal profiles on social media sites
Number of professional and/or work related profiles	NumWprof	Number	Number of primarily work-related profiles on social media sites (may duplicate personal sites)
Number of different types of personal social media acts	PSMactsT	Number /month	Sum of 18 types of activities in the past 30 days. Includes a range of activities from passively reading to posting video. (See appendices)
Number of different types of work-related social media acts	WSMactsT	Number / month	Sum of 18 types of activities in the past 30 days. Includes a range of activities from passively reading to posting video. (See appendices)
Index of personal start to use social media at work	SMWyrIndexT	Years	For the individual's start of use of social media in relation to work
Index of start to use social media for personal use	SMPyrIndexT	Years	Individual start to use social media for personal matters

Table 4.8 Summary Information on Variables and Indices

Descriptive Statistics			
Variable or Index	**Mean**	**Std. Deviation**	**N**
PSMactsT - personal SM acts	4.60	4.24	230
WSMactsT -work-related SM acts	1.04	2.22	233
CWTrust - Benevolence & integrity trust of coworkers	39.72	8.27	226
CWcompetence - competence trust of coworkers	15.68	2.96	234
Cooperation	14.89	2.85	234
ISHSS - intent to share info	11.88	2.09	233
ISHnew revised intent to share scale	19.74	3.21	232
JSSS2 - job satisfaction	7.56	1.75	234
Trust of Mgmt -- benevolence, integrity, competence	30.99	8.44	232
SMhrPatHhrsT - personal SM hours at home	3.20	4.56	230
SMhrPatWhrsT - personal SM hours at work	1.46	2.95	227
SMhrWatWT - work-related SM hours at work	1.51	2.99	230
SMhrWatHT - work-related SM hours at home	2.24	3.97	233
SMPyrIndexT - personal start of SM use index	3.16	4.42	211
SMWyrIndexT - work-related start of SM use index	1.93	3.61	221
CoPolicyFac - company SM toleration + encouragement	2.56	5.16	233
Age	42.01	11.76	235
KEscale2 original knowledge exchange scale	30.06	5.64	235
KEtrim - trimmed knowledge exchange scale from factor	19.01	3.64	233
SMEncouragYrsT - years of social media encouragement	0.69	1.78	222
CoSMIndexT - index of social media in company	9.80	12.60	210
NumWprof - number of work-related soc. net profiles	0.98	1.36	235
NumPprof - number of personal soc. net profiles	1.26	1.44	235
Autonomy1 - 1 item	3.91	0.99	235
SHNORM1 - subjective norm for info sharing, 1 item	3.77	0.88	235
TMCSS - competence trust of mgmt original scale	10.82	2.79	234
TMBSS - benevolence trust of mgmt original scale	10.01	3.04	234
TMISS - integrity trust of mgmt original scale	10.07	3.08	187
CWI - coworker integrity trust original scale	14.85	3.13	231
CWBenevolence - coworker original scale	13.93	3.50	230

The variables and social media indices are summarized in Table 4.8. The number of different types of activities is not weighted in the indices PSMactsT and WSMactsT. Never-the-less weighting the active acts more than the passive ones would be a justifiable exercise.

F. Data Analysis

Descriptive Data

This analysis of the descriptive data required only basic classification techniques. Tables, cross tabulations, correlations and comparisons of means are presented in the results chapter. Important data are presented in appropriate charts.

Relational and Potentially Predictive Data

Each of the scales was subjected to scrutiny of the distribution for skewness, outliers and non-normality. Reliability (Cronbach alpha) and confirmatory factor analysis results were examined for consistency with the variable definitions. Near normal distributions are particularly important to support the assumptions of structural equation modeling especially in sample with modest numbers of cases. Deviations from the ideal distributions were found in this research and noted in the limitations. Scales such as trust and organizational climate are multi-dimensional concepts and each was dissected as noted to confirm that results were consistent with previous research.

Break-out of Work-Related Social Media Users and Non-Users

Many respondents had no use of social media at home or at work. In order to clarify the findings some separate analyses of work-related social media users and non-users were made and reported in the next chapter. A work-related social media user is

one who reported work-related hours spent or work-related social media actions in the past 30 days.

G. Model Testing

      Finally the data analysis reaches the prime questions related to the mutual influences of trust, organizational climate, and social media use. The test is whether an effect for blogging, etc. can be found as an addition to a model linking trust and organizational climate to knowledge sharing and combination. The study also attempted to look for a virtuous (or vicious) circle in those variables.

SEM vs. Regression

As expressed in the discussion of simple summary model, multiple regression is satisfactory for testing the predictive power of variables. However, for comparison of competing models, especially where some variables are latent, structural equation modeling (SEM) is the appropriate but more mathematically complex approach. Technically SEM is the analysis of covariance structures. Covariance structure modeling is a combination of confirmatory factor analysis and multiple regression but if not used with care and with theoretical justification, many alternative models can appear to be satisfactory (Breckler, 1990; Kline, 2005). For this research, which is somewhat exploratory, modeling was based on further examination of the theory combined with tentative hypotheses developed from data collected. Attention to the technical issues of reliability and identification in SEM was given before collecting data. Guidance on reporting the results was taken from McDonald & Ho (2000). Structural equation modeling was done with AMOS. Regression was the method used by Collins & Smith

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from which the research model here was derived. Some limited SEM – path analysis –

was conducted but with cautionary notes about sample size, colinearity and non-normal

distributions. Therefore multiple regression was used in complementary manner, a

situation that was a planned contingency.

CHAPTER 5
RESEARCH FINDINGS

This chapter first presents in order the descriptive information on adoption and use of social media including the types of corporate sites, external sites used and hours per week at home and at work. That is followed by correlations between organizational climate and media use. Multiple regression helps determine which variables are significant beyond bivariate correlation and then path analysis corroborates the findings from regression. Finally, attitudes about social media and their potential to build social capital are examined.

A. Adoption of Company Collaborative or Social Media

About 60% of respondents' companies reported internal online directories sites as illustrated in Figure 5.1 below showing the biggest number in the year 2000 or prior. That most common one is a basic function of many intranets, the directory of people and expertise. In contrast, the majority of companies or organizations represented by the people in the sample have not adopted many recently-introduced true social media encouraging interactions. As noted in the previous chapter the appearance of a few claimants of very early adoption (2000 and prior) was treated as spurious on all but internal directories. The trickle of adoptions over the years appears credible.

The pattern for more recent social media developments looks quite different with lower rates of adoption but a pattern of steady increase in recent years. See Figure 5.2.
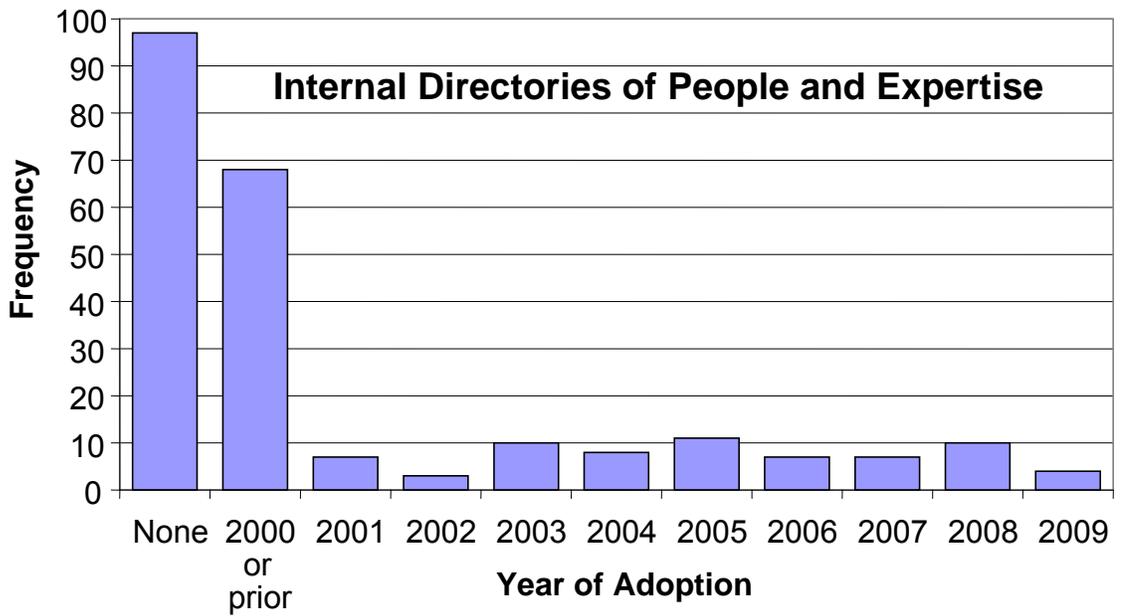
Figure 5.1 Adoption of Company Internal Online Directories
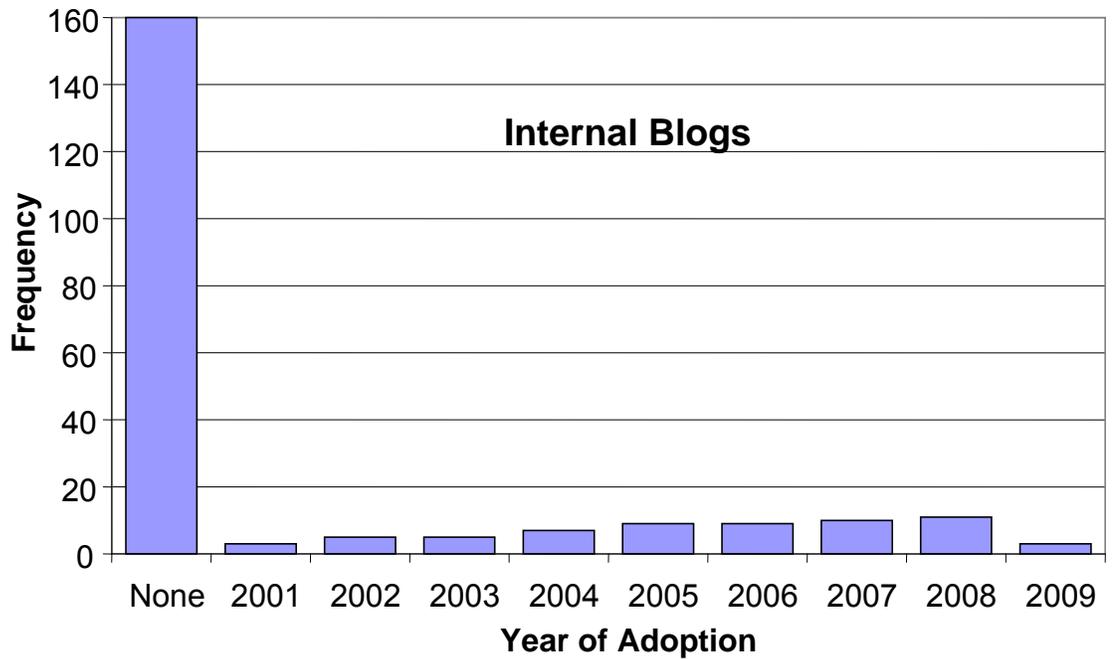
Figure 5.2 Adoption of Company Internal Blogs
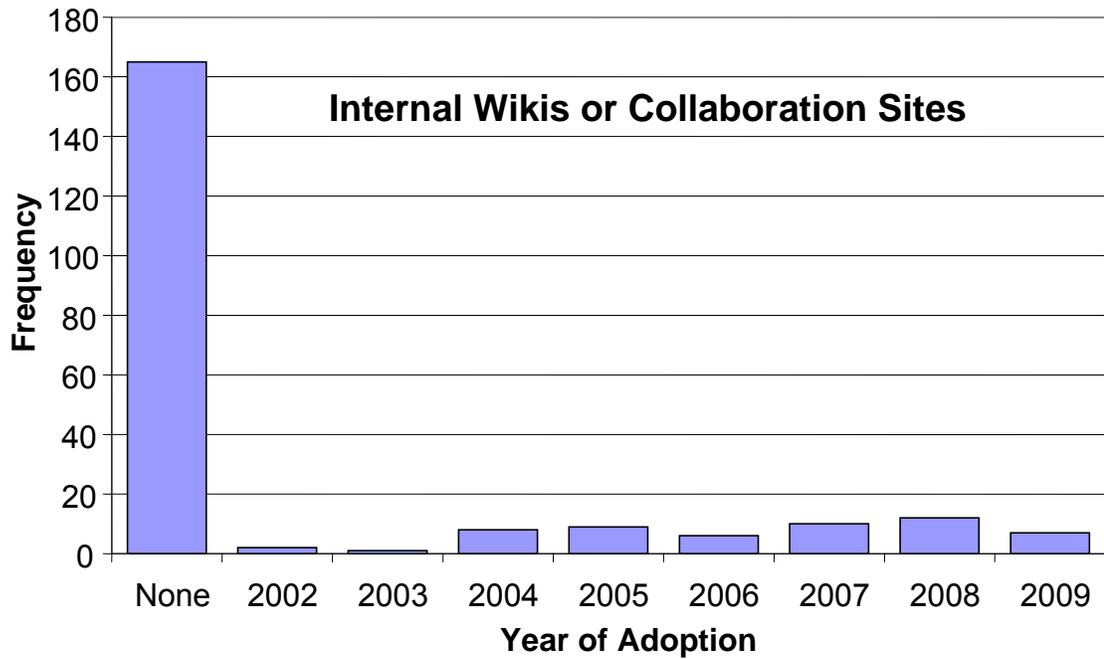
Figure 5.3 Adoption of Company Internal Wikis or Collaboration Sites
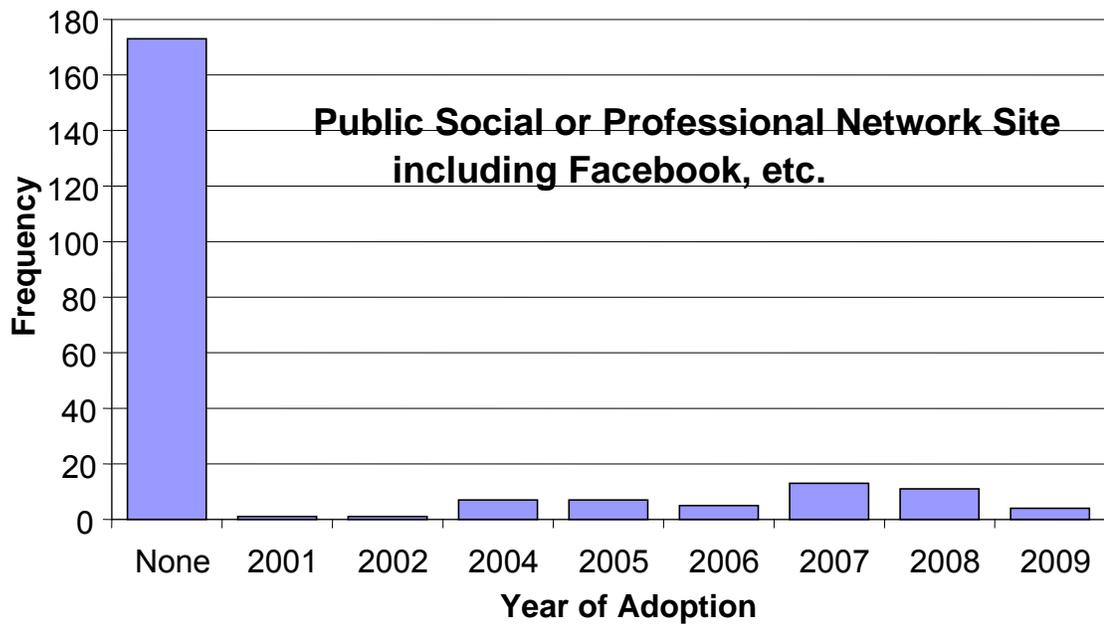
Figure 5.4 Adoption of Company Public Social Networking Site

Wikis too showed a pattern of increase in recent years, particularly starting in 2004 as shown in Figure 5.3

The people who responded "2000 and prior" for social networking strained credibility to the breaking point. There were bulletin boards, forums and USENET well before the year 2000. As previously noted those responses were marked as missing in constructing indices and in making the charts so as not to distort the results.

B. Company Policies on Social Media Use

The questionnaire included items on three possible aspects of company policy on social media use. They were prohibition, identification with guidelines, and encouragement. Analysis was done only with guidelines and encouragement because there were few firms with prohibitions and some of whom were later reported to have encouraged social media. Thus interpretation in a small sample is ambiguous.

Table 5.1 Years of Social Media Use Guidelines

Year	Years	Frequency	Percent	Cumulative Percent
None	.00	174	74.0	80.2
2009	.25	3	1.3	81.6
2008	1.00	6	2.6	84.3
2007	2.00	6	2.6	87.1
2006	3.00	10	4.3	91.7
2005	4.00	5	2.1	94.0
2004	5.00	6	2.6	96.8
2003	6.00	2	.9	97.7
2002	7.00	3	1.3	99.1
2001	8.00	2	.9	100.0
	Total	217	92.3	
Missing	9.00	16	6.8	
	System	2	.9	
	Total	18	7.7	
Total		235	100.0	

Table 5.1 shows the results of asking when the company provided guidelines for participating in social media. There appear to have been a couple of early adopters of social media usage guidelines and then a mainly steady adoption with a bump in 2006.

Table 5.2 Years of Having a Company Policy Encouraging Public Social Media Use

Year	Years	Frequency	Percent	Cumulative Percent
None	.00	179	76.2	80.6
2009	.25	5	2.1	82.9
2008	1.00	7	3.0	86.0
2007	2.00	7	3.0	89.2
2006	3.00	4	1.7	91.0
2005	4.00	4	1.7	92.8
2004	5.00	4	1.7	94.6
2003	6.00	5	2.1	96.8
2002	7.00	4	1.7	98.6
2001	8.00	3	1.3	100.0
	Total	222	94.5	
Missing	System	13	5.5	
Total		235	100.0	

As the two tables show, approximately 75% of the respondents worked for companies with no policy tolerating or encouraging the use of social media with company identification. The 2000 and prior responses were discarded from usage indices.

C. Amount of Social Media Use

This section examines the hours per week reported for social media use for personal and work related matters at work and elsewhere. The pattern reflects significantly more personal social media experience off the job than in work-related

Table 5.3 Summary of Hours per Week Spent on Social Media

ALL	Work-related Social Medial Use at Work (hours/week) (SMhrWatWT)	Work-related Social Media Use at Home (hours/week) (SMhrWatHT)	Personal Social Media Use at Home (hours/week) (SMhrPatHhrsT)	Personal Social Media Use at Work (hours/week) (SMhrPatWhrsT)
N Valid	230	233	230	227
Missing	5	2	5	8
Mean	1.519	2.24	3.20	1.46
Median	.00	.00	1.00	.00
Std. Deviation	2.99	3.97	4.55644	2.95
Social Media Users Only				
N	81	99	91	85
Mean	4.3	5.3	5.1	3.0
Std. Deviation	3.7	4.6	4.8	3.7
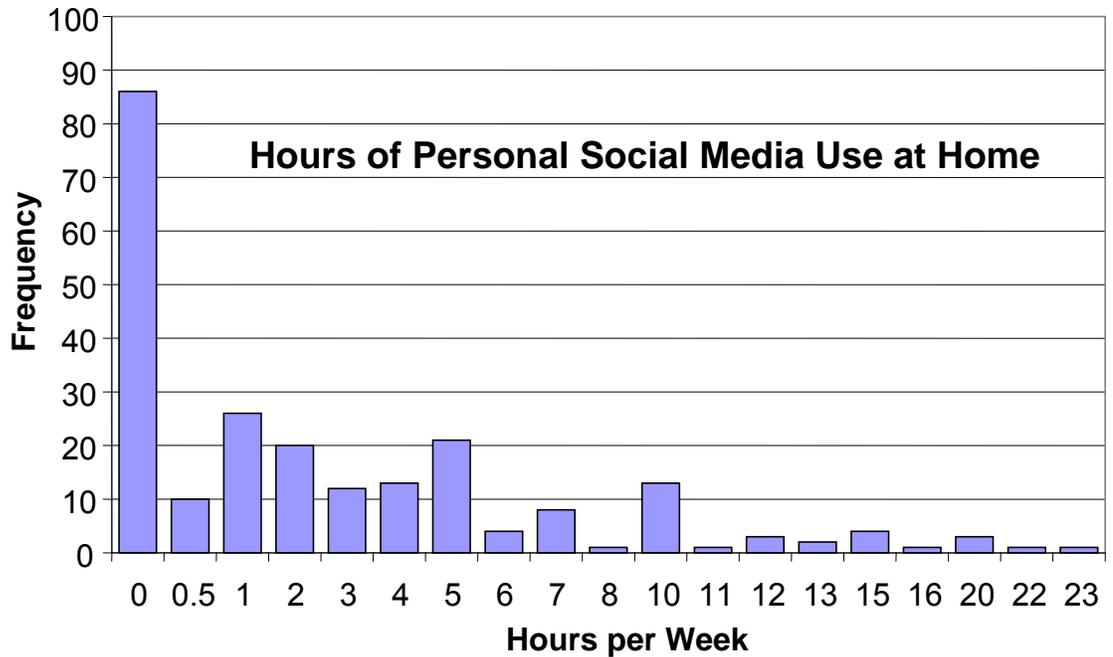
Figure 5.5 Personal Social Media Use at Home

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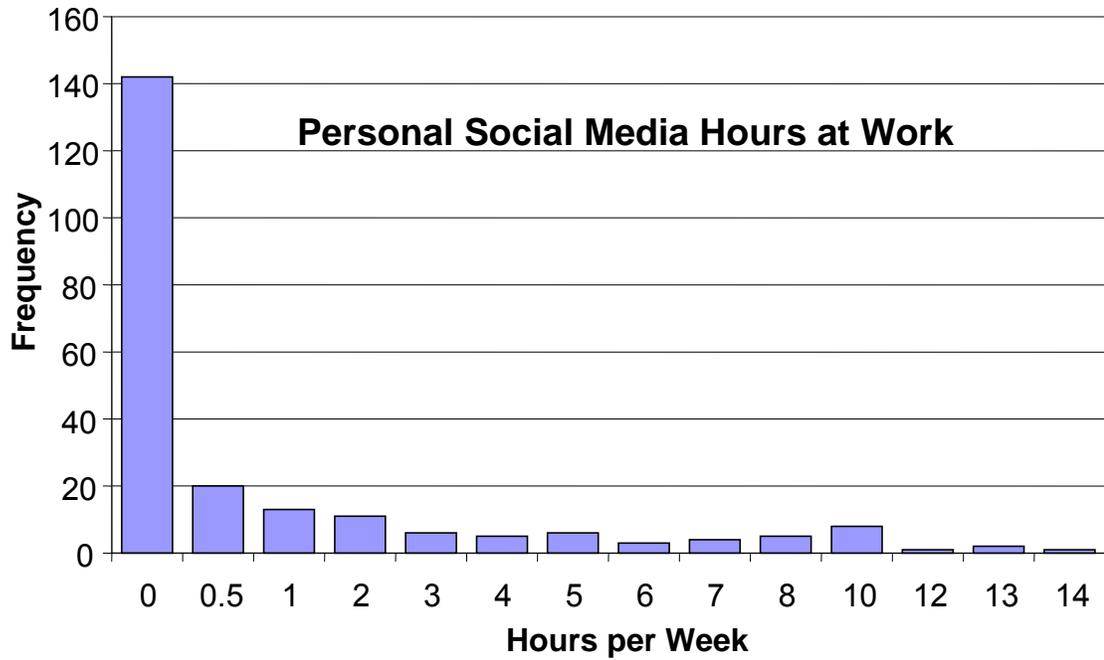
Figure 5.6 Hours of Personal Social Media Use at Work
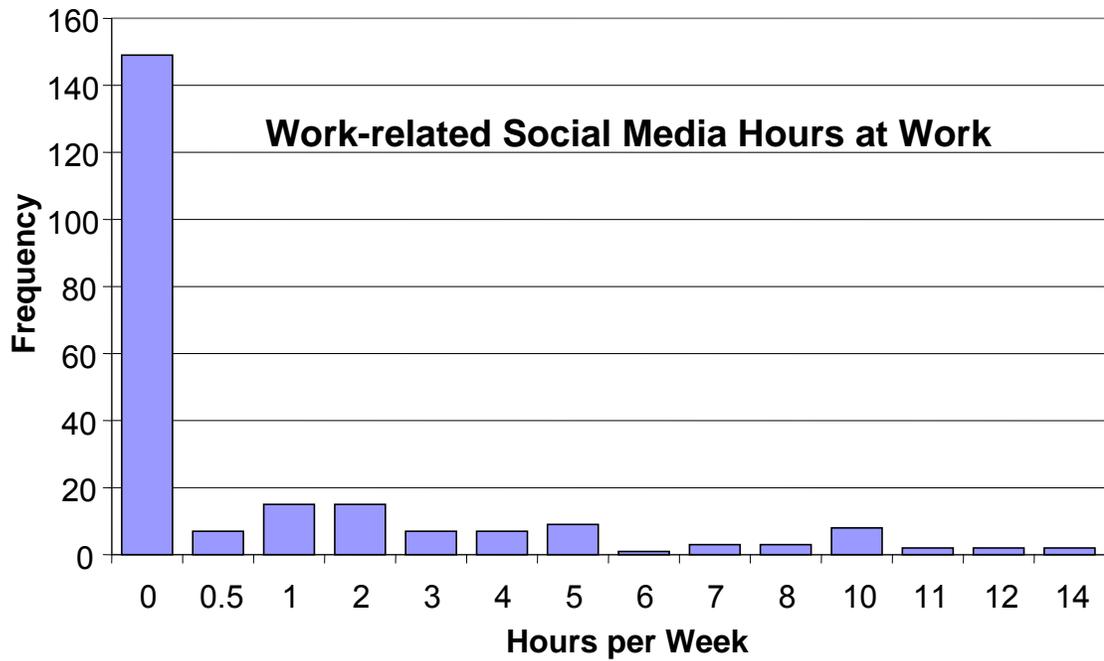
Figure 5.7 Work-Related Social Media Use at Work
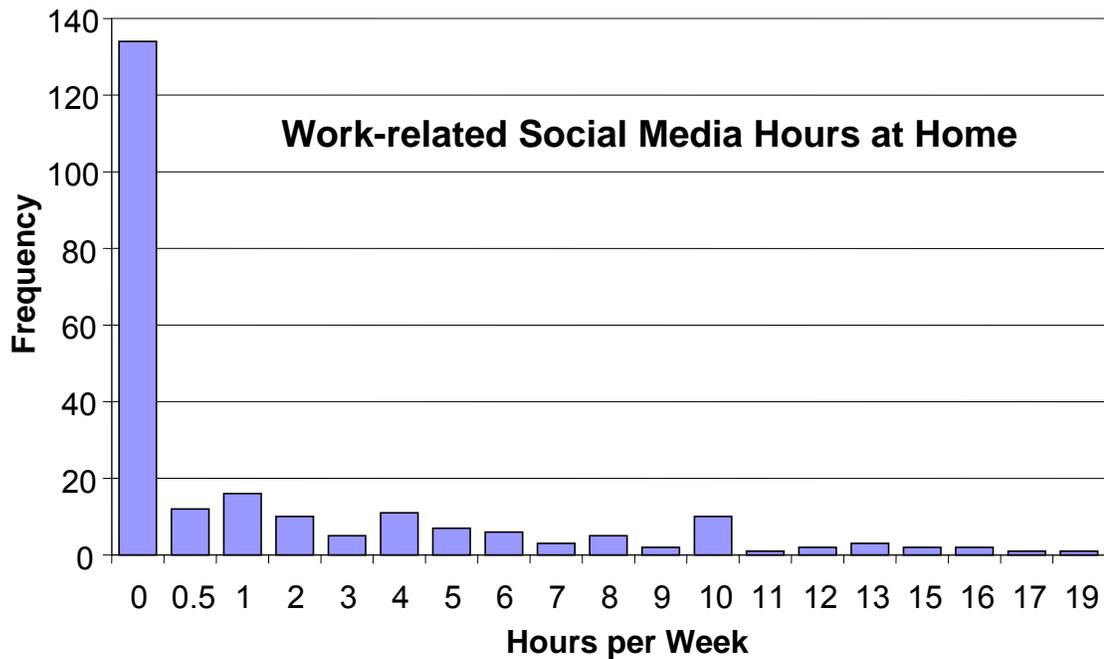
Figure 5.8 Work-Related Social Media Use at Home

matters. The findings are reported in Table 5.3 and then presented graphically in Figures 5.5 through 5.8.

A clear fact is that many people are not using any social media at work or away. Interestingly, the amount of work-related time on social media is higher at home, or at least not at work, than at work. The mean away from work was 2.24 hours per week and at work, 1.52 hours. However, the difference is not statistically significant. Not surprisingly, personal social media time was higher at 3.20 hours per week is significantly different than the number of hours at work, 1.46 hours per week ($p < .01$).

D. Types of Social Media Used

The types of social media used for personal and for work-related matters have a similar pattern as Figures 5.9 and 5.10 illustrate. Note that this does not address the question of overall Internet use. About 38% of the respondents had no primary social media site. Other than more time with industry sites, the overall pattern of use is quite similar. For many people there is not a sharp division between personal and work issues in social media use.

The relative pattern of social media site usage is the same for work-related use as shown in the chart below. However, for personal use, fewer have no profile at all -- about 38% -- compared to almost 50% at work who reported no profile for work-related matters.

The relative popularity of Facebook relative to the reportedly more professional LinkedIn contrasts with 2006 research reported elsewhere (DiMicco et al., 2009). It does however reflect the mixing of work and personal presence that was documented in the same research that was about an internal or enterprise social network at IBM. That large corporation appears to be one with more professional visibility expectations than average businesses. (It surely helps a firm to use the tools it sells.) Given that expectation, the difference just represents a true difference between the populations sampled. The finding here may also represent changes in perception and functionality. Note that scanning is relatively higher on YouTube compared to other sites, something that seems plausible.

Social Media Sites -- Personal
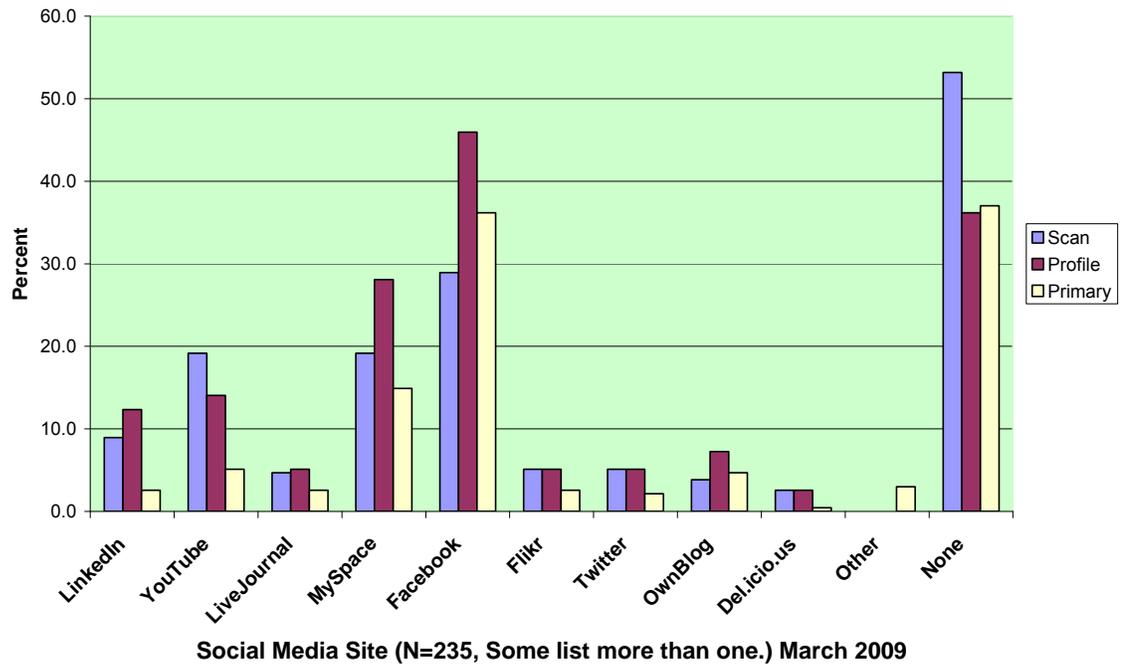
Figure 5.9 Social Media Sites – Personal

Social Media Sites Used in Relation to Work
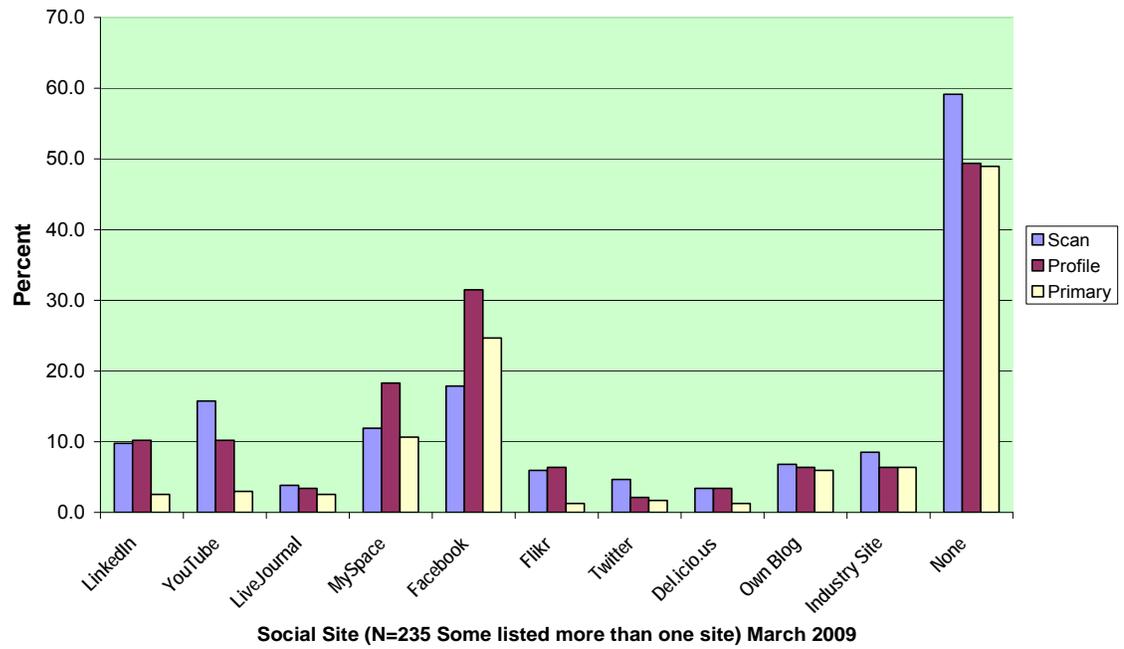
Figure 5.10 Social Media Sites Used in Relation to Work

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E. Types and Numbers of Social Media Used in the Prior 30 days

The number of hours spent with social media related to work compared to personal use is not dramatically different, on the average 3.8 hrs/wk vs. 4.7 hrs/wk. The variety of social media acts in the past 30 days is quite different. On the average it was about one type of action related to work compared to 4.6 for personal social media activities. A comparison of the work and personal activities is presented in Figure 5.11. The only categories where the acts were relatively comparable were low frequency ones including use of an RSS feed and contributing to or editing a wiki. In the other direction, watching a video from others was about nine times more frequent as a personal activity compared to work related. Similarly other popular activities like reading a blog, visiting social networking sites, and maintaining one's own profile were much higher for personal reasons than for business ones. Otherwise the acts were around the four to one ratio of personal to business. Viewed in a positive sense, 81% of the respondents had some personal social media activity in the past 30 days compared to about 55% of those same people who had some work-related activity.
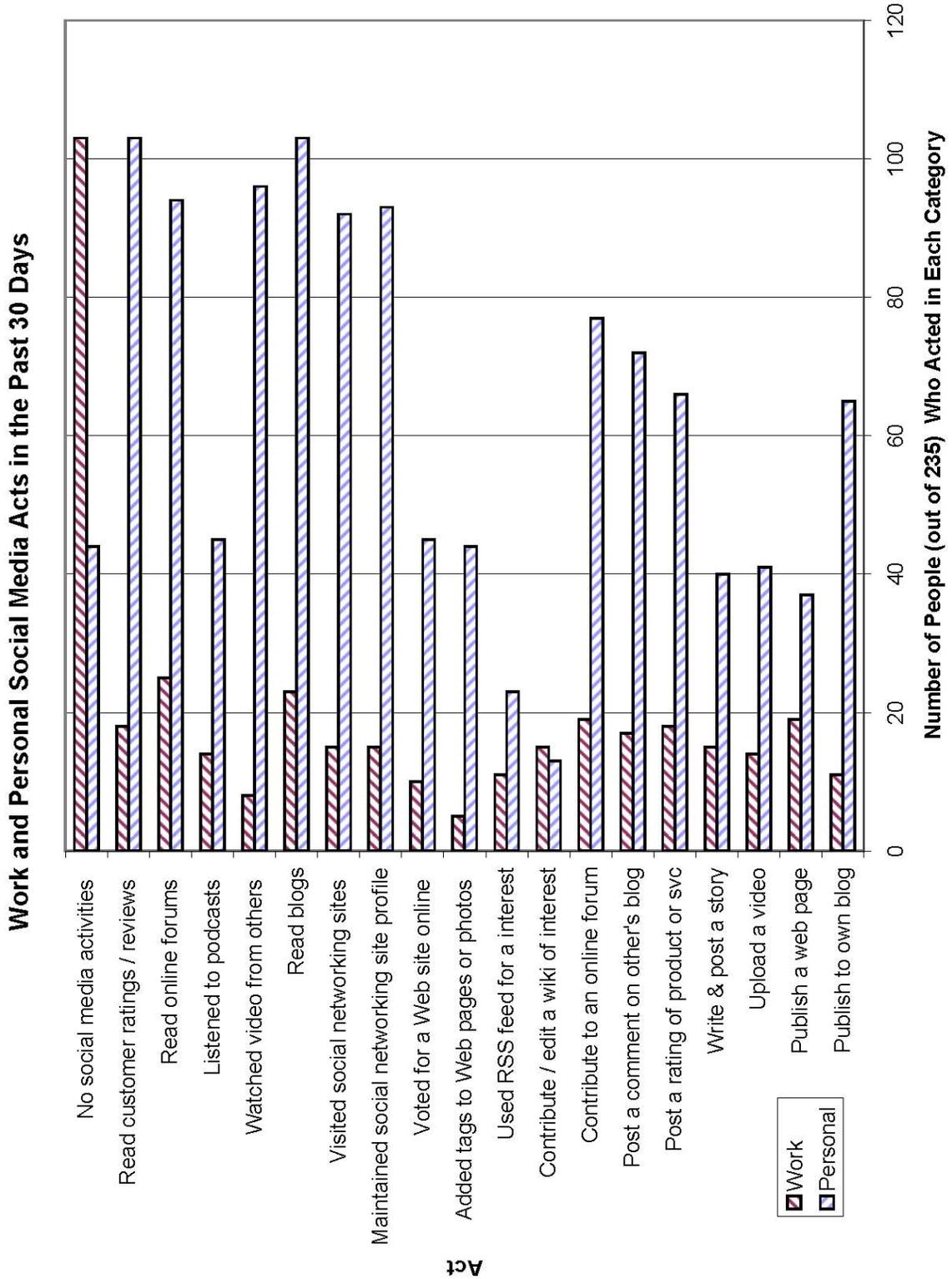
Figure 5.11 Work and Personal Social Media Acts in the Past 30 Days

Number of Personal Social Media Acts
by Persons in the Past 30 Days
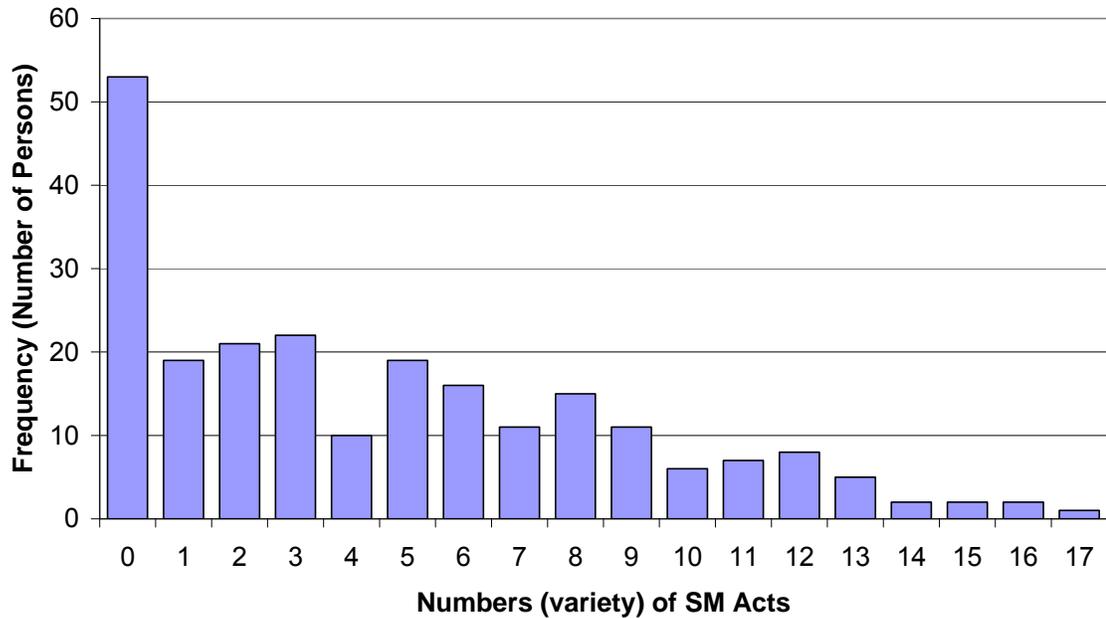
Figure 5.12 Numbers of Types of Personal Social Media Acts

On the average a respondent did about 4.6 different types of personal social media

acts (Table 5.4). The distribution of the number of acts by an individual is shown in

Figure 5.12. Some activities many people participated in, such as reading blogs while

other such as editing wiki were done by a much smaller number of people.

Table 5.4 Work-related and Personal Social Media Acts in the Past 30 Days

All		Personal Social Media Acts (variety) in past month PSMactsT	Work-related Social Media Acts (variety) in past month WSMactsT
N	Valid	230	233
	Missing	5	2
Mean		**4.60**	**1.04**
Median		3.50	.00
Std. Deviation		4.24	2.22
Social Media Users Only			
N		177	68
Mean		**6.0**	**3.6**
Std. Deviation		3.9	3.8

In Figure 5.13 it is clear that the average variety of social media acts at or related to work is much lower than personal acts (Figure 5.12), less than one quarter of the personal.

Number of Work-Related Social Media Acts by Persons in the Past 30 Days
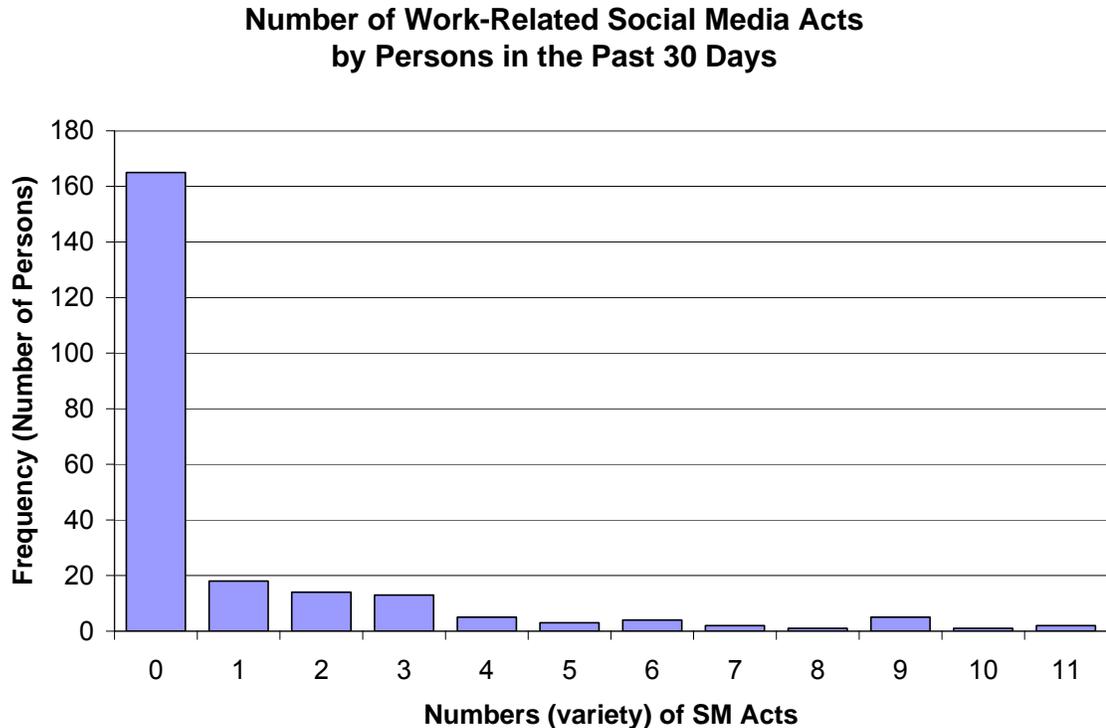
Figure 5.13 Numbers of Types of Work-related Social Media Acts

F. Correlations between Variables

In the preceding paragraphs key social media usage variables and scales have been presented along with descriptive information. The focus now shifts to relationships between the constructs and what we may observe from basic correlations. The correlation matrix details are in Appendix C. In the following discussion ** indicates significance at the .01 level while * indicates significance at the .05 level. Numbers in

[square brackets] indicate the values for social media users only. The contrast of users and non-users is important because of the relatively high percentage of respondents who reported that they did not use social media at all.

The correlation matrix shows a number of important associations as well as discrimination between variables. The number of various personal social media acts (PSMactsT) correlates with the number work-related acts (WSMactsT) reflecting consistency in behavior (r = 0.319**) [.536**]. However, those variables correlated at distinctly different levels with the organizational climate and knowledge sharing variables. Personal social media acts (PSMactsT) did not correlate significantly with the coworker trustworthiness scales, cooperation, intentions to share information, job satisfaction, or the trustworthiness of top management scales. In contrast, work-related social media acts did correlate significantly with all of them, including for social media users only. It correlated (r= .220**) [.274*] with trust of management. For examples, the number of social media acts related to work (WSMactsT) correlated significantly with the knowledge exchange and combination scale (r = .174**) [.260**] and the intention to share information scale (r = .149*) [.300**]. Thus higher levels of social media use at home on personal interests did not carry over to work in the study sample.

All of the climate and information sharing scales correlated significantly with each other.

Job satisfaction was significantly correlated (r = .486** to .654**) with all the desirable organizational climate variables. It correlated modestly (r = .162**) [.105^{ns}] with work-related social media acts (WSMactsT) and with work-related hours of social media use at home (r = .155**) [.167*]. Job satisfaction was also highly correlated with

intentions to share knowledge (ISHnew) (r = .521**) [.570**] and knowledge exchange and combination (r = .592**) [.699**]. Job satisfaction did not correlate with work-related social media use (hours) at work but did correlate (r = .155*) [.167*] with work-related social media hours at home. (The difference between work and at home will be considered in the discussion chapter.)

Hours of work-related social media use at home correlated modestly (r = .112*) [$.091^{ns}$] only with coworker trust (benevolence plus integrity) but not with coworker competence trust. This may reflect the hypothesized importance of an affect effect for social media use in relation to work.

The company social media index, reflecting both a diversity of company media and length of existence, correlated with work-related social media acts (diversity) (r = 0.441**) [.370**]. It did not correlate with personal social media acts, likely evidence that social media use at home does not necessarily carry over to work.

Age was not significantly correlated with the number of personal social media acts or with work-related acts – [user only too]. However, age did correlate negatively (p < .01) [-.192*, -341**, -.190*, -.259**] with the measures of hours per week of social media use on and off the job, as well as the numbers of profiles on social networking sites.

The results presented above constitute a consistent pattern including when users are separated from non-users in correlations. The question to be faced now is which of the variables has unduplicated variance? Which variables add explanatory power?

G. Comparison of Social Media Users and Non-Users

Correlations by themselves do not always give very clear ideas of effect sizes. This section provides comparisons of effects sizes and explicit comparisons between users and non-users of social media. Trust of top management and knowledge exchange had statistically significant differences between the two groups. The difference in trust score – about 10% – illustrated in Figure 5.14 is meaningful in a company familiar to the author.
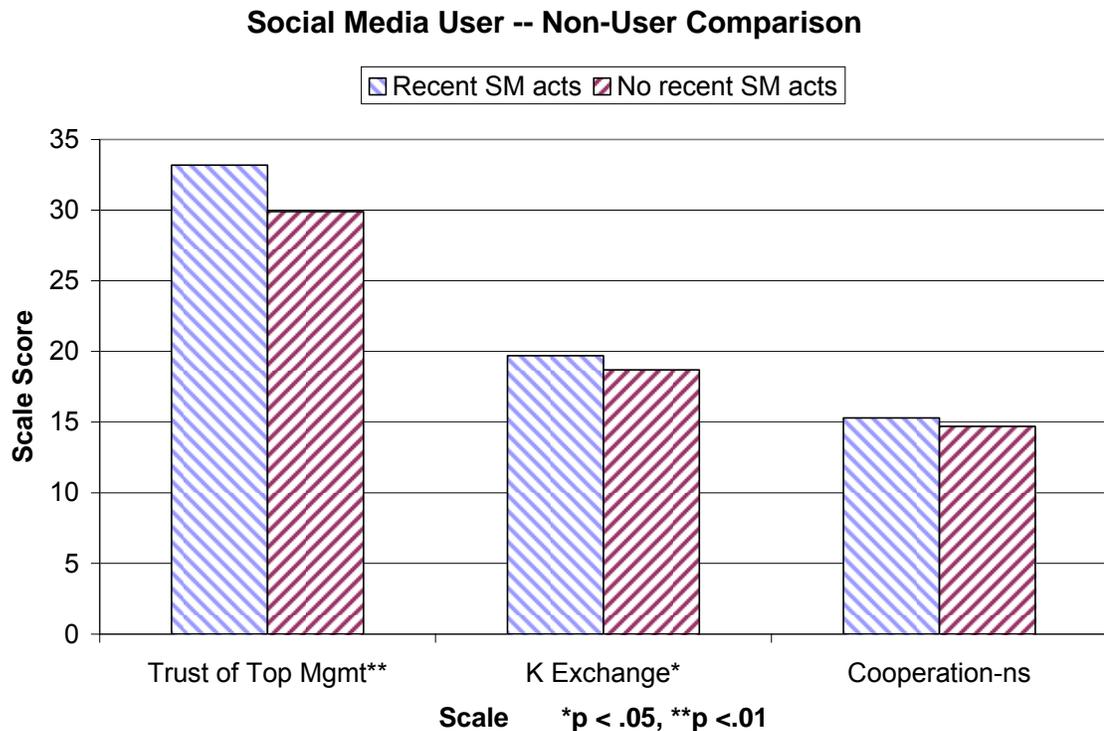
Figure 5.14 Comparison of Social Media Users and Non-Users Based on Work-Related Acts

Looking at hours of work-related social media use shown in Figure 5.15, the difference is significant for trust of top management but not for trust of coworkers.

Social Media User -- Non-User Comparison on Hours at Work
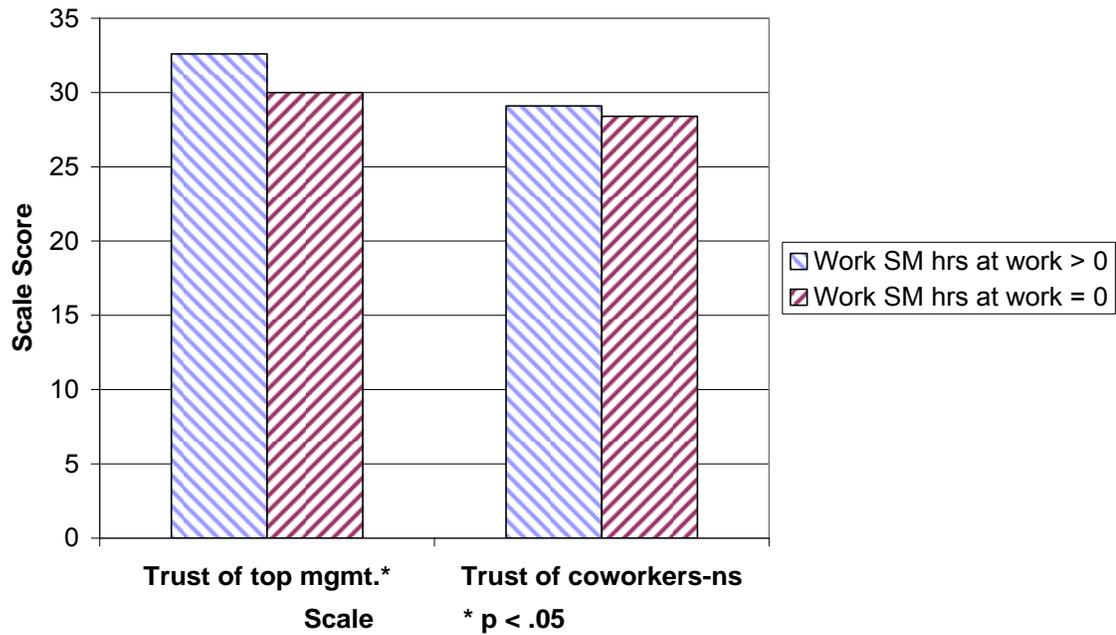
Figure 5.15 Comparison of Social Media Users and Non-Users Based on Work-Related Hours of Use at Work

Social Media User -- Non-User Comparison on Work-Related Hours at Home
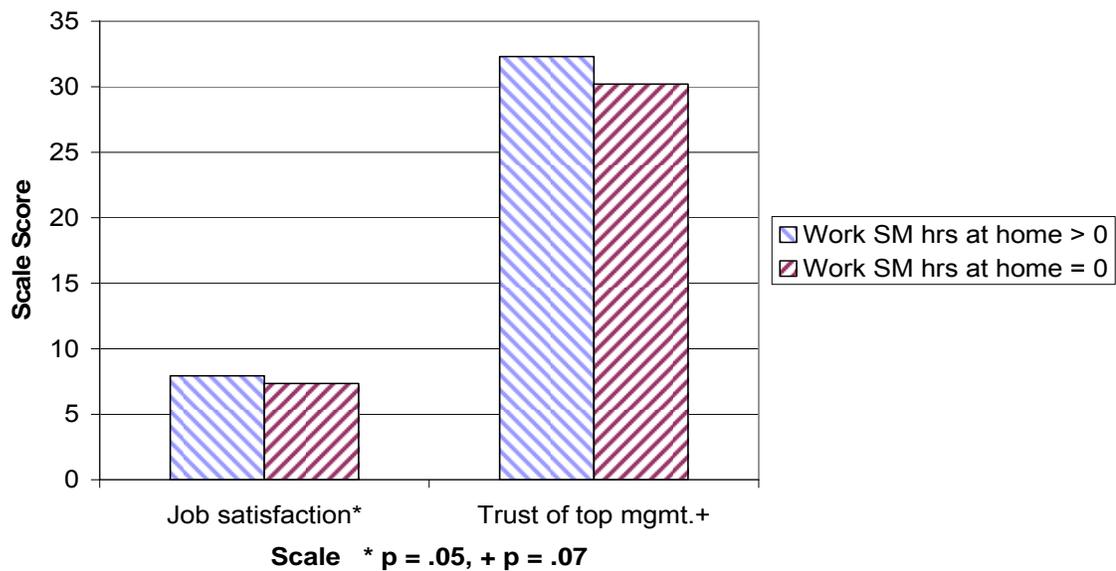
Figure 5.16 Comparison of Social Media Users and Non-Users Based on Work-Related Hours of Use at Home

Work-related social media users at home also showed more job satisfaction compared to those with no hours per week of social media use but the difference is small.   See Figure 5.16 above in which trust in management is in the expected direction but not statistically significant.

H. Regression Analysis

Whatever the variance available to work with or explain, no statistical technique can make more as we are reminded from time to time (Marcoulides, Chin, & Saunders, 2009). Since structural equation modeling produced modest fits (next section), reflecting an inadequate understanding of the causal paths and the characteristics of sample, the alternative analysis tool of multiple regression was employed. From that method, the relative importance of the variance components, if not paths of effect, accounted for can be assessed. In the face of strongly correlated organizational climate measures, some social media variable associations survive in accordance with the predictions of theory. Recall that a central question is the relationships between social media use, knowledge exchange and sharing and trust of management. What do social media add? That is the essence of hypothesis H1 to be reported here now using multiple regression.

Trust in Management

The dimensions of perceived trustworthiness of others (competence, benevolence and integrity), including management, are highly correlated, particularly in the study's sample as previously discussed. Any could be used with almost equal consequences. Therefore the combined trust in management scale was selected to analyze and report

because it has a higher Cronbach alpha than any dimension alone. (In other models trust in management benevolence alone worked well.)   Model 4 in Table 5.5 shows the dominant effect of the climate variables of trustworthiness (benevolence) of coworkers and cooperation, a cooperative climate.

While the climate variables of coworker trust (benevolence and integrity) and cooperation dominate the solution however the hours of work-related social media use at work (SMhrWatWT) remains significant at better than the .01 level. On the other hand, the personal hours of social media use at home has a negative coefficient. The cause is a

Table 5.5 Regression of Trust of Management on Climate and Social Media Use
Dependent Variable: Trust of Mgmt, Adj. r^2 = .49

Model	Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Partial Correlations
		B	Std. Error	Beta			
1	(Constant)	1.413	2.216		0.637	0.524	
	CWTrust	0.534	0.039	0.665	13.577	0.000	0.665
2	(Constant)	1.113	2.173		0.512	0.609	
	CWTrust	0.527	0.039	0.656	13.666	0.000	0.665
	SMhrWatWT	0.450	0.136	0.159	3.306	0.001	0.194
3	(Constant)	-0.451	2.217		-0.203	0.839	
	CWTrust	0.368	0.069	0.458	5.302	0.000	0.665
	SMhrWatWT	0.426	0.134	0.150	3.169	0.002	0.194
	Cooperation	0.700	0.255	0.238	2.748	0.006	0.633
4	**(Constant)**	**-0.310**	**2.189**		**-0.142**	**0.887**	
	CWTrust	**0.367**	**0.068**	**0.457**	**5.363**	**0.000**	**0.665**
	SMhrWatWT	**0.528**	**0.138**	**0.186**	**3.821**	**0.000**	**0.194**
	Cooperation	**0.734**	**0.252**	**0.249**	**2.914**	**0.004**	**0.633**
	SMhrPatHhrsT	**-0.240**	**0.091**	**-0.129**	**-2.643**	**0.009**	**-0.011**

p in (.05), p out (.10)
Excluded variables: CoSMIndexT, CWcompetence subscale, WSMactsT, PSMactsT, SMhrPatWhrsT, SMhrWatHT, SMWyrIndexT, SMEncouragYrsT, NumPprof, NumWprof

matter for further analysis and discussion but the size of the coefficient suggests that the practical effect is small. The adjusted r^2 of the model is .49.

When the trust of coworkers and cooperative climate are removed there is only one variable that remained significant. It is in accord with expectations (Table 5.6). It is also consistent with the central hypothesis of this research that climate and social media acts form a virtuous circle.

Table 5.6 Regression of Trust in Management on Social Media Use

Dependent Variable: Trust of Mgmt, Adjusted r^2 = .043

Model		Unstandardized Coefficients		Standardized Coefficients			Correlations
		B	Std. Error	Beta	t	Sig.	Part
1	(Constant)	30.126	0.592		50.909	0.000	
	WSMactsT	0.825	0.242	0.218	3.405	0.001	0.218

p in (.05), p out (.10)
Excluded variables: CoSMIndexT, PSMactsT, SMhrPatHhrsT, SMhrPatWhrsT, SMhrWatWT, SMhrWatHT, SMWyrIndexT, SMEncouragYrsT, NumPprof, NumWprof, CoPolicyFac

The significance was p = .001 for number of types of social media acts at work ((WSMactsT), the only variable that had predictive power. The adjusted r^2 of the model is a scant .043 from which we may conclude that there is a contribution of social media to the trust of management but it is very small -- at least in the study population.

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Knowledge Combination and Exchange

In addition to the social dimension, social media sites are justified for facilitating and encouraging knowledge and information sharing. Knowledge sharing is highly correlated with major climate variables of trust and cooperation. The knowledge combination and sharing variable is negatively skewed with the effect that the distribution is not normal. There are too many responses at the high end. The strength of the association between knowledge exchange and combination and trust in coworkers is illustrated by the model in Table 5.7.

Table 5.7 Contribution of Organizational Climate and Social Media Use to Knowledge Exchange

Dependent Variable: KEtrim, r^2 = .70

Model		Unstandardized Coefficients		Standard-ized Coeffic-ients			Correlations
		B	Std. Error	Beta	t	Sig.	Part
1	(Constant)	3.106	0.722		4.304	0.000	
	CWTrust	0.287	0.013	0.827	22.420	0.000	0.827
2	(Constant)	2.513	0.734		3.426	0.001	
	CWTrust	0.227	0.023	0.654	9.897	0.000	0.827
	Cooperation	0.263	0.084	0.206	3.123	0.002	0.753
3	**(Constant)**	**2.221**	**0.735**		**3.021**	**0.003**	
	CWTrust	**0.219**	**0.023**	**0.632**	**9.573**	**0.000**	**0.827**
	Cooperation	**0.288**	**0.084**	**0.226**	**3.429**	**0.001**	**0.753**
	PSMactsT	**0.078**	**0.031**	**0.090**	**2.482**	**0.014**	**0.132**

Excluded variables: WSMacts, CoSMindex, SMEncouragYrs, CoPolicyFac, SMhrWatW, SMhrWatH, NumWprof, NumPprof, SMhrPatHhrsT, SMhrPatWhrsT, SMhrWatHT, SMhrWatWT, SMWyrIndexT, SMPyrIndexT, SMEncouragYrsT, CoSMIndexT, CWcompetence subscale

Using this set of independent variables, perceptions of coworker benevolence and integrity trust and cooperation dominated estimation of knowledge exchange and combination. The variety of personal social media activities (PSMactsT) had a small but significant contribution to knowledge exchange and sharing. The effect is a speculative one that there is some carry-over to knowledge sharing at work from personal social media activities.

While it would be important to confirm that personal social media activity carries over to work, there are more predictors of social media activity at work (Table 5.8). The adjusted r^2 for this model of prediction of increasing variety of social media acts related to work is .38. These predictors, hours of personal social media use at work, years of social media use at work, variety of personal social media actions, number of professional profiles, coworker competence trust and number of personal profiles (negative coefficient), survived in competition with coworker benevolence trust and cooperation. The negative coefficient for number of personal social media profiles may be an artifact or reflect a need to better understand the relationship between personal social media use and business use. The negative coefficient of hours of personal social media use in Table 5.5 is consistent with the personal profiles coefficient in Table 5.8.

Table 5.8 Predictors of Work-related Social Media Acts

Dependent Variable: WSMactsT, r^2 = .38

Model	Coefficients	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Part
1	(Constant)	0.549	0.145		3.780	0.000	
	SMhrPatWhrsT	0.339	0.045	0.444	7.563	0.000	0.444
2	(Constant)	0.242	0.145		1.671	0.096	
	SMhrPatWhrsT	0.262	0.044	0.343	5.995	0.000	0.444
	SMWyrIndexT	0.217	0.036	0.343	5.990	0.000	0.444
3	(Constant)	-0.183	0.183		-1.005	0.316	
	SMhrPatWhrsT	0.239	0.043	0.313	5.540	0.000	0.444
	SMWyrIndexT	0.203	0.035	0.321	5.723	0.000	0.444
	PSMactsT	0.106	0.029	0.200	3.666	0.000	0.308
4	(Constant)	-0.267	0.182		-1.466	0.144	
	SMhrPatWhrsT	0.211	0.044	0.276	4.843	0.000	0.444
	SMWyrIndexT	0.167	0.037	0.265	4.520	0.000	0.444
	PSMactsT	0.087	0.029	0.165	2.985	0.003	0.308
	NumWprof	0.283	0.099	0.174	2.850	0.005	0.426
5	(Constant)	-2.018	0.632		-3.194	0.002	
	SMhrPatWhrsT	0.212	0.043	0.278	4.952	0.000	0.444
	SMWyrIndexT	0.177	0.037	0.280	4.832	0.000	0.444
	PSMactsT	0.074	0.029	0.141	2.565	0.011	0.308
	NumWprof	0.290	0.098	0.178	2.960	0.003	0.426
	CWcompetence subscale	0.114	0.039	0.152	2.890	0.004	0.135
6	**(Constant)**	**-2.064**	**0.628**		**-3.286**	**0.001**	
	SMhrPatWhrsT	**0.236**	**0.044**	**0.310**	**5.339**	**0.000**	**0.444**
	SMWyrIndexT	**0.171**	**0.036**	**0.271**	**4.684**	**0.000**	**0.444**
	PSMactsT	**0.096**	**0.031**	**0.181**	**3.113**	**0.002**	**0.308**
	NumWprof	**0.398**	**0.111**	**0.245**	**3.572**	**0.000**	**0.426**
	CWcompetence subscale	**0.120**	**0.039**	**0.160**	**3.054**	**0.003**	**0.135**
	NumPprof	**-0.220**	**0.110**	**-0.143**	**-1.991**	**0.048**	**0.289**

Excluded variables: CoSMIndexT, SMhrPatHhrsT, SMhrWatWT, SMhrWatHT, SMEncouragYrsT, CoPolicyFac, CWTrust, Cooperation

Table 5.9 Prediction of Work-Related Social Media Acts including Trust in Management
Dependent Variable: WSMactsT, r^2 = .37

Model	Coefficients	Unstandardized Coefficients		Standardized Coefficients			Correlations
		B	Std. Error	Beta	t	Sig.	Part
1	(Constant)	0.549	0.145		3.780	0.000	
	SMhrPatWhrsT	0.339	0.045	0.444	7.563	0.000	0.444
2	(Constant)	0.242	0.145		1.671	0.096	
	SMhrPatWhrsT	0.262	0.044	0.343	5.995	0.000	0.444
	SMWyrIndexT	0.217	0.036	0.343	5.990	0.000	0.444
3	(Constant)	-0.183	0.183		-1.005	0.316	
	SMhrPatWhrsT	0.239	0.043	0.313	5.540	0.000	0.444
	SMWyrIndexT	0.203	0.035	0.321	5.723	0.000	0.444
	PSMactsT	0.106	0.029	0.200	3.666	0.000	0.308
4	(Constant)	-1.426	0.466		-3.059	0.002	
	SMhrPatWhrsT	0.218	0.043	0.285	5.066	0.000	0.444
	SMWyrIndexT	0.202	0.035	0.320	5.801	0.000	0.444
	PSMactsT	0.109	0.028	0.206	3.832	0.000	0.308
	Trust of Mgmt	0.041	0.014	0.154	2.889	0.004	0.218
5	**(Constant)**	**-1.394**	**0.461**		**-3.026**	**0.003**	
	SMhrPatWhrsT	**0.194**	**0.043**	**0.255**	**4.477**	**0.000**	**0.444**
	SMWyrIndexT	**0.170**	**0.037**	**0.269**	**4.653**	**0.000**	**0.444**
	PSMactsT	**0.091**	**0.029**	**0.173**	**3.177**	**0.002**	**0.308**
	Trust of Mgmt	**0.037**	**0.014**	**0.141**	**2.657**	**0.008**	**0.218**
	NumWprof	**0.258**	**0.099**	**0.159**	**2.616**	**0.009**	**0.426**

Excluded variables: CoSMIndexT, SMhrPatHhrsT, SMhrWatWT, SMhrWatHT, SMEncouragYrsT, NumPprof, CoPolicyFac, CWTrust, CWcompetence subscale, Cooperation

A similar result was obtained introducing trust in top management as an independent variable in Table 5.9 above. Along with personal social media hours at work (SMhrPatWhrsT), years of social media at work (SMWyrIndexT), personal social media acts and the number of work-related profiles, trust of management was a significant predictor.

A comparable list of social media indices remained significant even with trust in management added. Trust in management displaced coworker competence trust. Other

climate variables could be inserted in place of trust variables. The above regressions do not prove causality; they suggest areas to look deeper and more broadly with correlations. There is a complex of organizational climate variables and social media use indices that covary.

I. Model fitting

Up to this stage in the analysis bivariate correlations and multiple regression have provided some support for the hypotheses. A more stringent test of specific relationships, potentially causal ones, was done with basic structural equation modeling. The purpose was not to make a claim of causality but rather to further characterize the associations presented earlier. Because of some scales not having normal distributions, potential empirical under-identification caused by high correlations on the one hand and the low variance to be accounted for on the other, use of structural equation must be interpreted with caution. (There is of course a check on blindly applied SEM because symptoms would include matrices that are not positive definite, negative variance estimates and r^2's greater than 1.) Trust in management and knowledge sharing will be investigated separately.

Organizational Climate, Social Media Use and Trust in Management

The first step is measurement model for organizational climate and social media use as shown in Figure 5.17. The organizational climate latent variable was constructed of coworker trust dimensions – benevolence, integrity and competence – and cooperation.
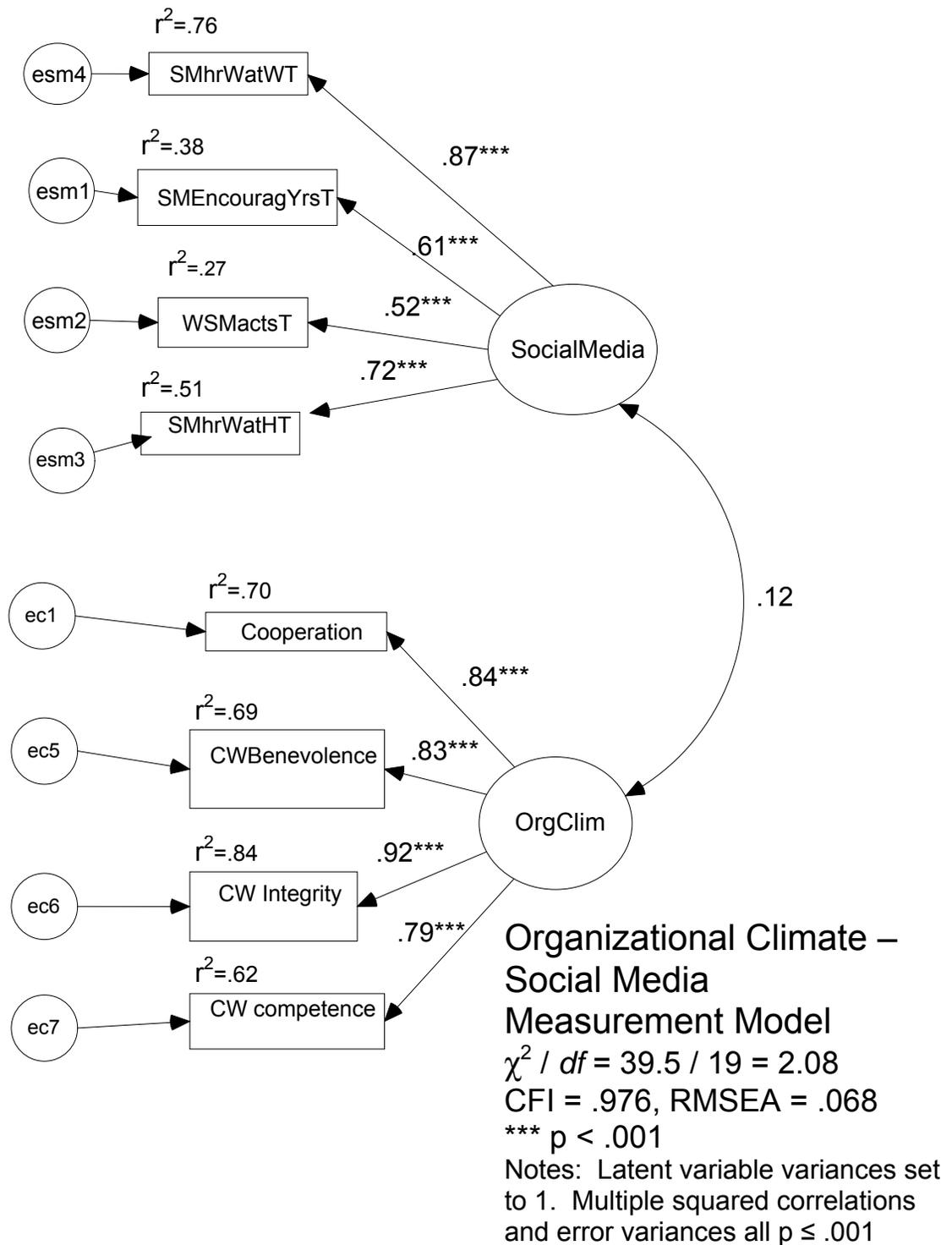
Figure 5.17 Measurement Model of Social Media and Organizational Climate

The social media latent variable was constructed from hours of work-related social media use at work and at home, recent work-related social media acts, and years of encouragement of work-related social media use. The variance of each of the latent variables was set at 1.0. Each of the latent variables' components contributed significant variance ($p < .001$). Each error variance was similarly significant. (That is consistent with the need for better, more refined measures for future research.) The two latent variables had a weak relationship. The covariance was 0.12 ($p = .11$). The measurement model has an acceptable but not excellent fit as indicated by $\chi^2 / df = 39.5 / 19 = 2.08$, CFI $= .976$, RMSEA $= .068$ (low 90 $= .037$, high 90 $= .098$).

The measurement model was applied in a path analysis with trust of management treating it as a directly observed, not latent variable, because it is a previously well-validated scale. There were strong relationships between organizational climate and trust in management and between social media use and trust of management (Figure 5.18 below). The standardized path coefficient of .12 ($p = .12$) between organizational climate and social media did not meet normal significance criteria. Consistent with other results of this study, the path coefficient .19 ($p < .001$) between social media and trust in management was significant. At .69 ($p < .001$) the path coefficient between organizational climate and trust in management was large. The fit of the model was acceptable with $\chi^2 / df = 45.9 / 25 = 1.84$, CFI $= .979$, RMSEA $= .060$ (low 90 $= .031$, high 90 $= .087$). Again, the directions of the arrows in the path diagrams are of course not proof of causality in the conditions of this study.
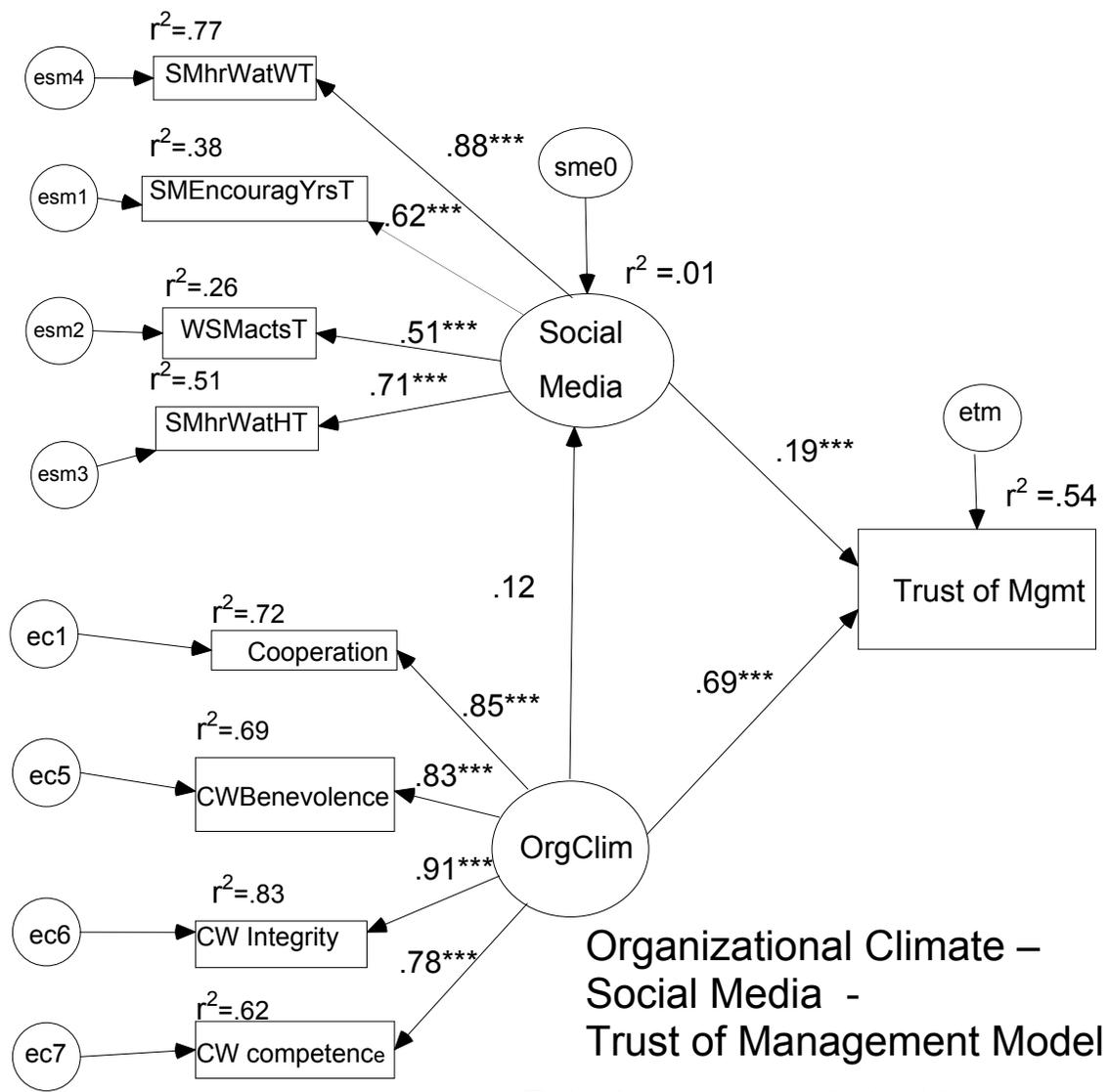
Figure 5.18   Path Model of Social Media and Trust in Management

Organizational Climate, Social Media Use and Knowledge Exchange

The next step was to look at a measurement model to use with knowledge

exchange as the final endogenous variable (Figure 5.19 below). That model uses the same

organizational climate and social media latent variables as used with trust in

management. Unlike trust of management, a direct indicator, knowledge exchange was

constructed as a latent variable. The fit of the measurement model is characterized by the

indices $\chi2$ / df = 133.8 / 62 = 2.157, CFI = .961, RMSEA = .070 (low 90 = .054, high 90

= .087) and was not good but acceptable.

Applied to a path model (Figure 5.20) the path between organizational climate

and knowledge exchange was again highly significant. The model fit was modest with

$\chi2$ / df = 133.8 / 62 = 2.157, CFI = .961, RMSEA = .070 (low 90 = .054, high 90 = .087).

However, the paths between organizational climate and social media, and social media

and knowledge exchange are below conventional levels of significance at p < .1 and so

must be deemed indicative or suggestive only. The models illustrate the strong

correlation between organizational climate as evaluated with respect to peers and the

desirable associated "output" climate and knowledge sharing variables. The implications

of these results for this and future research are considered in the discussion chapter that

follows.

Figure 5.19 Organizational Climate and Knowledge Exchange Measurement Model

Organizational Climate-Social Media - Knowledge Exchange Path Analysis with Latent Variables
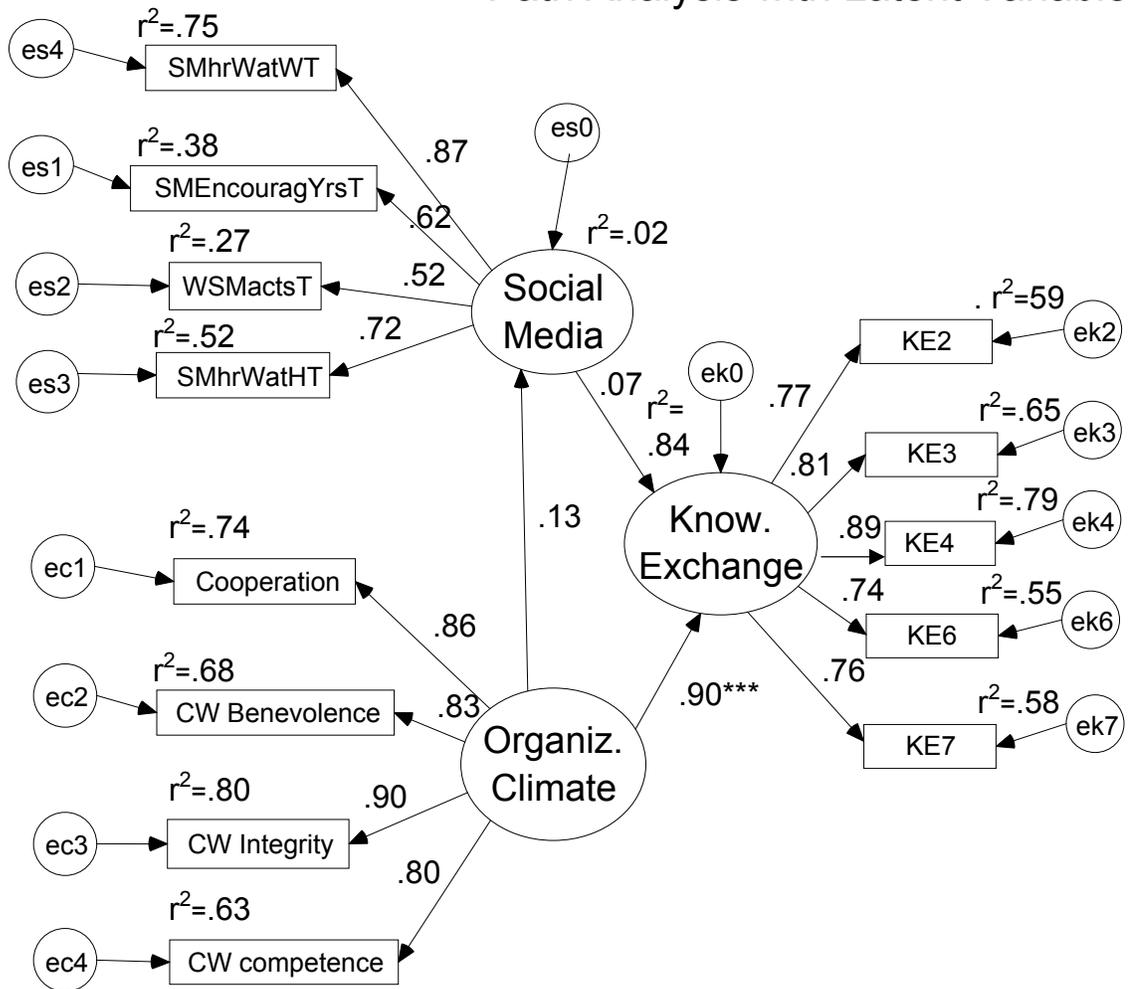
χ^2 / df = 133.8/62 = 2.157
CFI = .961, RMSEA = .070
 *** p < .001
Standardized coefficients
Note: Error variances all p ≤ .001 as are multiple
squared correlations of items.

Figure 5.20 Organizational Climate and Knowledge Path Model

J. Perceived Benefits and Drawbacks of Social Media Use

This section presents information primarily on perceived benefits of social media use in organization. These benefits, in particular, are related to brokerage, closure and information exchange. The data may be interpreted in a "glass is half empty" or a "glass is half full" way. Neutrality is the mode on most questions. Most exhibit positive correlations with organizational climate variables. A few questions are related to drawbacks. Figure 5.16 below is representative of the responses showing the approximately normal distribution centered on the neutral position. Discussion will be centered on the presence or lack of correlations. (The single item variables for norm for sharing and autonomy are ideas for comparison and possible future studies inspired by other research.).

Two frameworks could be used to group the results. The first is the study of Jackson, et al, (2007) to be followed here. The second is the opportunity, motivation and ability conceptual social capital model of Adler & Kwon (2002) that will be considered in the discussion chapter. Using the Jackson, et al. framework allows placing the benefits seen at "Mega Corporation" – almost surely IBM – in contrast with those seen in a cross section of enterprises. Beyond size, IBM is a very social media-centric enterprise as described.

In the following discussion the correlations are marked ** for $p < .01$ or * for $p < .05$ as applicable. It is important to note that no single question is an appropriate basis for supporting conclusions of a definitive association. Thus it is important to look at the pattern of correlations and contrary evidence.

SMBD1   Social media are an easy way to record my work and make it visible

Mean =3.03

Std. Dev. =1.029

N =231

(1=strongly disagree, 5 =strongly agree
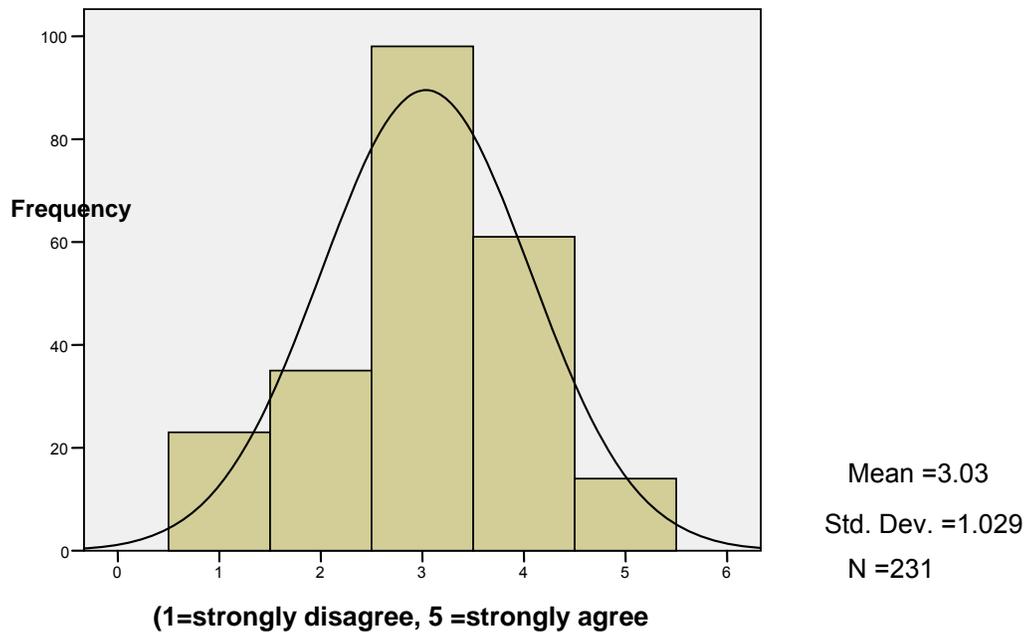
Figure 5.21 Social Media Making Work Visible

The reported benefits at IBM were classified as informational, social – the most numerous –, and other (Jackson et al., 2007). Informational included getting/sharing information, journaling, problem solving and getting/giving feedback. The following statements fall into that category.

- Social media help me locate experts or information that can help me.
- Social media help us constructively challenge our assumptions.
- Social media help us reach good and/or innovative solutions.
- I have shared some of my knowledge with other employees by social media.
- I don't mind asking for help via social media.
- Social media have helped me get feedback on an idea or solve a problem.

Table 5.10 Agreement with informational functions of social media

	Social media help me locate experts or information that can help me. SMBD4	Social media help us construct-ively challenge our assump-tions. SMBD6	Social media help us reach good and/or innovative solutions. SMBD7	I have shared some of my knowledge with other employees by social media. SMBD16	I don't mind asking for help via social media. SBBD19	Social media have helped me get feedback on an idea or solve a problem. SMBD23
CWTrust	.234(**)	.223(**)	.236(**)	.195(**)	.172(**)	.167(**)
CWcompetence	.129(*)	.150(*)	.146(*)	0.058	.128(*)	0.041
Trust of Mgmt	.247(**)	.191(**)	.228(**)	.241(**)	.248(**)	.243(**)
CoSMIndexT	.307(**)	.276(**)	.307(**)	.375(**)	.260(**)	.367(**)
SMEncouragYrsT	.287(**)	.214(**)	.314(**)	.433(**)	.317(**)	.424(**)
SMPyrIndexT	.197(**)	.226(**)	.261(**)	.223(**)	.248(**)	.215(**)
SMWyrIndexT	.257(**)	.216(**)	.267(**)	.370(**)	.277(**)	.390(**)
SMhrWatWT	.366(**)	.348(**)	.316(**)	.421(**)	.321(**)	.420(**)
SMhrWatHT	.365(**)	.379(**)	.325(**)	.414(**)	.400(**)	.467(**)
SMhrPatHhrsT	.184(**)	.276(**)	.256(**)	.143(*)	.165(**)	.166(**)
SMhrPatWhrsT	.328(**)	.327(**)	.304(**)	.332(**)	.298(**)	.324(**)
Cooperation	.189(**)	.234(**)	.222(**)	.170(**)	.176(**)	.157(**)
JSSS2	.202(**)	.150(*)	.152(*)	.179(**)	.149(*)	.156(**)
ISHnew	.113(*)	.174(**)	.135(*)	0.003	.116(*)	-0.008
KEtrim	.231(**)	.214(**)	.251(**)	.200(**)	.197(**)	.224(**)
SHNORM1	.145(*)	.163(**)	.200(**)	.117(*)	.123(*)	.137(*)
Autonomy1	.222(**)	.212(**)	.156(**)	.118(*)	.170(**)	0.104
CoPolicyFac	.343(**)	.280(**)	.343(**)	.470(**)	.350(**)	.482(**)
PSMactsT	.135(*)	.259(**)	.307(**)	0.085	.165(**)	.139(*)
WSMactsT	.344(**)	.336(**)	.355(**)	.363(**)	.337(**)	.376(**)
NumPprof	.262(**)	.306(**)	.346(**)	.235(**)	.277(**)	.263(**)
NumWprof	.399(**)	.304(**)	.375(**)	.405(**)	.344(**)	.396(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

Inspection of Table 5.10 makes it clear that significant correlations with social media indicators were found in most cases (126 of 132). There were six exceptions. Two involve the coworker competence trust for sharing and feedback (2 of 6). Two concern the intention to share knowledge scale (the same sharing and getting feedback questions).

The other two are autonomy and personal social media acts (one item). This will be further considered in the discussion chapter.

The social dimension included such concepts as engaging in dialogue, communicating, collaborating, networking, building community, gaining company pulse, gaining perspective, developing reputation, self expression and building career. (Some of those categories are admittedly broad.) To avoid duplication, the items related to brokerage and closure in social networks will be discussed in the next session. These are the other "social" questions.

- Social media are an easy way to record my work and make it visible.
- I believe that time spent building relationships with social media is time well spent.
- On our company social media I can test ideas in a low-risk environment.
- Social media help me enjoy work more.
- When I contribute to a company social media it may help me work with new people in the future.
- My company believes that it is good to spend time building relationships by social media.
- Social media help me advance in my job.
- The "social" content of social media is as important as the "business" part.

For the first two social statements (Table 5.11), all the correlations with indices were positive and significant. For the next two – risk and enjoyment of work – there were some cases of non-significant correlations. "Low risk" did not correlate with the competence of coworkers scale, personal social media hours at home, intention to share information or the variety of personal social media actions.

The statement on social media and enjoyment of work fared better; it failed to correlate only with the intention to share information. Why the knowledge exchange and combination scale (KEtrim) correlated and the intention to share information did not will be reviewed in the discussion section.

Table 5.11 Social Functions and Social Media Indices

	Social media are an easy way to record my work and make it visible.- SMBD1	I believe that time spent building relationships with social media is time well spent. SMBD5	On our company social media I can test ideas in a low-risk environment. SMBD9	Social media help me enjoy work more. SMBD12
CWTrust	.350(**)	.268(**)	.184(**)	.251(**)
CWcompetence subscale	.248(**)	.167(**)	0.048	.148(*)
Trust of Mgmt	.338(**)	.266(**)	.343(**)	.325(**)
CoSMIndexT	.218(**)	.313(**)	.335(**)	.323(**)
SMEncouragYrsT	.232(**)	.300(**)	.425(**)	.344(**)
SMPyrIndexT	.185(**)	.254(**)	.159(*)	.125(*)
SMWyrIndexT	.180(**)	.267(**)	.393(**)	.228(**)
SMhrWatWT	.287(**)	.337(**)	.397(**)	.387(**)
SMhrWatHT	.288(**)	.391(**)	.370(**)	.433(**)
SMhrPatHhrsT	.252(**)	.302(**)	0.106	.162(**)
SMhrPatWhrsT	.198(**)	.339(**)	.310(**)	.400(**)
Cooperation	.308(**)	.282(**)	.158(**)	.236(**)
JSSS2	.245(**)	.201(**)	.214(**)	.256(**)
ISHnew	.231(**)	.148(*)	0.025	0.101
KEtrim	.321(**)	.306(**)	.220(**)	.227(**)
SHNORM1	.225(**)	.210(**)	.145(*)	.143(*)
Autonomy1	.208(**)	.173(**)	.129(*)	.245(**)
CoPolicyFac	.290(**)	.352(**)	.467(**)	.414(**)
PSMactsT	.161(**)	.293(**)	0.083	.118(*)
WSMactsT	.269(**)	.332(**)	.363(**)	.360(**)
NumPprof	.293(**)	.371(**)	.213(**)	.261(**)
NumWprof	.340(**)	.362(**)	.380(**)	.414(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

Table 5.11 (Continued) Social Functions and Social Media Indices

	When I contribute to a company social media it may help me work with new people in the future. SMBD18	My company believes that it is good to spend time building relationships by social media. SMBD21	Social media help me advance in my job. SMBD26	The "social" content of social media is as important as the "business" part. SMBD27
CWTrust	.239(**)	.252(**)	.196(**)	.182(**)
CWcompetence subscale	.127(*)	.126(*)	0.056	0.039
Trust of Mgmt	.323(**)	.329(**)	.329(**)	.274(**)
CoSMIndexT	.365(**)	.351(**)	.351(**)	.341(**)
SMEncouragYrsT	.373(**)	.414(**)	.321(**)	.320(**)
SMPyrIndexT	.235(**)	.158(*)	.160(*)	.276(**)
SMWyrIndexT	.293(**)	.301(**)	.314(**)	.323(**)
SMhrWatWT	.358(**)	.384(**)	.414(**)	.352(**)
SMhrWatHT	.399(**)	.362(**)	.374(**)	.359(**)
SMhrPatHhrsT	.145(*)	.127(*)	.119(*)	.198(**)
SMhrPatWhrsT	.330(**)	.344(**)	.369(**)	.356(**)
Cooperation	.254(**)	.251(**)	.192(**)	.188(**)
JSSS2	.250(**)	.253(**)	.200(**)	.132(*)
ISHnew	.168(**)	0.101	0.042	0.071
KEtrim	.253(**)	.250(**)	.190(**)	.215(**)
SHNORM1	.213(**)	.228(**)	0.103	.162(**)
Autonomy1	.212(**)	.167(**)	.155(**)	.111(*)
CoPolicyFac	.408(**)	.437(**)	.383(**)	.361(**)
PSMactsT	.133(*)	0.089	0.017	.192(**)
WSMactsT	.356(**)	.379(**)	.337(**)	.359(**)
NumPprof	.226(**)	.210(**)	.223(**)	.304(**)
NumWprof	.399(**)	.396(**)	.389(**)	.370(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

The statement on social media helping in the future received unanimous positive correlation. On spending time to build relationships, only the intention to share information and the personal social media acts did not correlate. As to job advancement

and social media, it did not correlate with coworker competence trust, intention to share information, or personal social media activities in the past 30 days. Finally, on the "social" being as important as the "business," only coworker competence trust and intention to share information failed to correlate. Benevolence and integrity trust of coworkers did correlate at the $p < .01$ level on all the statements in the social group. The respondents clearly saw benefits to social media use and these perceptions correlated with the organizational climate variables of this study.

A diverse set of statements from the "other" will be considered in turn. Correlations are listed in Table 5.12 The statements are:

- The work-related social media are a waste of time.
- Collaboration sites and wikis are better than email for project coordination.
- I am cautious about what I post on company or external social media.
- I am concerned that social media can be recorded "forever."
- Social tagging and bookmarking sites help my work.
- Social media sometimes cause me to phone or email a person.

The idea that work-related social media are a waste of time found modest correlations with the company social media index, years of social media encouragement, years of social media use at work and hours of personal social media use at work. On the other hand, it was more strongly negatively correlated with knowledge exchange and personal social media acts. The negative correlations are indicative of a belief in sharing. Most of the correlations were not significant indicating a diversity of opinion and experience.

In contrast, the idea that wikis and collaboration sites are better than email for project coordination was broadly supported by positive correlations except for years of personal social media use.

Table 5.12 Other Benefits of Social Media

	The work-related social media are a waste of time. SMBD11	Collabor-ation sites and wikis are better than email for project coordin-ation. SMBD14	I am cautious about what I post on company or external social media. SMBD15	I am concerned that social media can be recorded "forever." SMBD20	Social tagging and book marking sites help my work. SMBD24	Social media some-times cause me to phone or email a person. SMBD25
CWTrust	-0.065	.249(**)	0.091	0.025	.196(**)	.171(**)
CWcompetence	-0.105	.132(*)	0.070	-0.056	0.078	0.054
Trust of Mgmt	-0.030	.270(**)	0.042	0.051	.261(**)	.225(**)
CoSMIndexT	.147(*)	.183(**)	.121(*)	.158(*)	.379(**)	.283(**)
SMEncouragYrsT	.147(*)	.278(**)	0.021	.190(**)	.381(**)	.320(**)
SMPyrIndexT	0.052	0.092	.165(**)	.125(*)	.163(**)	.147(*)
SMWyrIndexT	.149(*)	.158(**)	.119(*)	.156(*)	.359(**)	.276(**)
SMhrWatWT	0.046	.307(**)	0.027	0.032	.390(**)	.392(**)
SMhrWatHT	0.095	.227(**)	0.097	0.071	.420(**)	.416(**)
SMhrPatHhrsT	-0.035	.124(*)	0.090	0.043	.130(*)	.155(**)
SMhrPatWhrsT	.132(*)	.234(**)	-0.024	0.065	.323(**)	.362(**)
Cooperation	-0.028	.204(**)	0.057	0.026	.186(**)	.159(**)
JSSS2	-0.055	.216(**)	0.052	0.073	.197(**)	.172(**)
ISHnew	-0.095	.128(*)	.144(*)	-0.014	0.050	0.050
KEtrim	-.179(**)	.247(**)	.136(*)	-0.021	.192(**)	.146(*)
SHNORM1	-0.070	.167(**)	0.104	0.028	.142(*)	0.100
Autonomy1	-0.062	.168(**)	.113(*)	0.023	.219(**)	.192(**)
CoPolicyFac	.160(**)	.325(**)	0.040	.175(**)	.417(**)	.389(**)
PSMactsT	-.171(**)	.136(*)	.136(*)	-0.065	.137(*)	.117(*)
WSMactsT	0.062	.150(*)	0.095	0.054	.387(**)	.383(**)
NumPprof	0.033	.196(**)	0.019	0.011	.247(**)	.248(**)
NumWprof	0.092	.229(**)	0.086	.167(**)	.404(**)	.374(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

Caution in posting on social media sites correlated positively with years of social media use on and off the job perhaps reflecting experience. The idea also correlated with

knowledge exchange and personal social media acts. Most correlations were not significant.

The permanence of social media postings correlated the company social media index, years of encouragement, years of personal and work-related use of social media sites, a company policy allowing use of social media and the number of work-related profiles. That may be an experience-driven concern as well.

The utility of social bookmarking sites was supported broadly including positive correlations with hours of use on and off the job. The exceptions were association with trust in coworker competence and intention to share information.

Similarly, the ability of social media to stimulate contacts by phone or email was confirmed, again only with the exceptions of coworker competence trust – but not benevolence and integrity trust – and intention to share information.

The Jackson, et al. (2007) applications of working efficiently and replacing technology were found in the study sample. Managing upwards may be considered related to career advancement through showing what one does with social media and building networks as discussed under the social benefits.

In summary, favorable views of social media use at work correlated in most cases with desirable organizational climate values.

K. Evaluation of Hypotheses

This section is an examination of how the correlation, regression and perception responses support or do not support the hypotheses stated in Chapter 3.

H1: **Social media use fits or augments a model linking organizational climate and knowledge sharing and trust in management.**

With respect to knowledge sharing, the hypothesis of a satisfactory structural equation model showing social media adding to the strong relationship between organizational climate and knowledge exchange was weakly supported. The path coefficients between organizational climate and social media use, and between social media use and knowledge exchange were only at suggestive confidence levels ($p < .1$).

With respect to trust of top management also, the model fit in acceptable manner but revealed path coefficients below conventional levels except for the organizational climate – trust in management path. The hypothesis and the model of Figure 3.3 were nonetheless consistent with regression evidence of some effect of social media adoption and use on climate variables.

Analysis by multiple regression provided partial support on trust. Referring to Table 5.6 work-related social media acts (WSMactsT) were significant ($p = .001$) estimators of benevolence trust in management when not competing with organizational climate variables.

For a more realistic test, the climate variable of cooperation and benevolence and integrity trust of coworkers were introduced (Table 5.5). In that competition coworker trust ($p < .001$), social media hours at work ($p < .001$), cooperation ($p < .01$) and fewer personal social media hours at home ($p < .01$) had significant beta's. The negative coefficient of personal social media hours at home remains unexplained but the coefficient was small. Although work-related social media acts (WSMactsT) correlated with the knowledge exchange scale (.174**) [.260*] it did not add to the trust and climate

variable in multiple regression as they are all highly correlated with both knowledge

exchange and intention to share information. The social media use indices at home

correlated modestly with knowledge sharing and exchange. Hours of personal social

media use correlated .129* [.256**] and for work-related hours at home the correlation

was .145* [.159^{ns}].

H2.1: Organizational trust (coworkers & management on the dimensions of benevolence, competence, integrity) positively correlates with the <u>adoption</u> of social media.

This hypothesis is not supported with the exception of trust of top management.

That variable includes three dimensions of trust. See Table 5.13 below. Adoption

represents action that is not directly controlled by employees except where stealth media

are permitted.

Table 5.13 Correlation of Company Social Media Adoption and Trust

Scale	Company Social Media Adoption Index	Years of company encouragement of social media use
Coworker benevolence and integrity trust	.023^{ns}	.077 ^{ns}
Coworker competence trust	-.056 ^{ns}	-.034 ^{ns}
Top management trust	.069 ^{ns}	.166**
Cooperation	.054 ^{ns}	.095 ^{ns}

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

H2.2: Organizational trust correlates positively with the <u>use </u>of social media.

This hypothesis had some support as illustrated in Table 5.14 below. Note in the

second and third columns that there is clear distinction between personal and work-

related social media acts. Whereas personal social media acts correlated only with

coworker competence trust, work social media acts, increased variety of work social

media acts correlated with both coworker and top management trust. Hours of personal

social media at home did not correlate with trust or cooperation; there was no direct

impact on perception of organizational climate. In contrast, personal social media use at

work correlated with trust in top management. (The benevolent leader tolerates or

encourages this?) Work social media use at work had a similar pattern wherein only trust

in management mattered. Interestingly, work-related social media use at home depended

on coworker benevolence and integrity trust, management trust, and cooperation. This

merits some discussion later.

Table 5.14 Correlation of trust with social media use indices

Scale	Personal SM acts	Work SM acts	Personal SM use at Home (hrs/wk)	Personal SM use at Work (hrs/wk)	Work SM use at Work (hrs/wk)	Work SM use at Home (hrs/wk)
Coworker benevolence and integrity trust	.072	.183**	.087	.044	.055	.112*
Coworker competence trust	.136*	.136*	.051	.081	-.038	.056
Top management trust	.011	.220**	-.011	.173**	.196**	.173**
Cooperation	-.007	.148*	.108	.036	0.081	.145*

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

H3.1 The length of time since <u>adoption</u> of social media correlates positively with organizational climate dimensions of knowledge exchange and cooperation.

Table 5.15 Correlation of Cooperation and Social Media Encouragement

Scale	Company SM Index	SM Encouragement (Yrs)
Cooperation	.054	.095
Knowledge Exchange	0.054	0.081

** Correlation is significant at the 0.01 level
* Correlation is significant at the 0.05 level

Neither the cooperation climate variable nor the knowledge exchange variable correlated with the company social media index or the encouragement of social media use by companies (Table 5.15). Therefore, the hypothesis was not supported. A larger sample and better certainty about which media were adopted when might have improved the measurement. Of course for adoption there must be steps taken. Climate by itself is not sufficient.

H3.2 The <u>use</u> of social media (reading of, posting to, number of blogs, online networking, etc.) correlates positively with organizational climate dimensions of knowledge exchange and cooperation.

Table 5.16 Organizational Climate and Social Media Use

Scale	Personal SM acts	Work SM acts	Personal SM use at Home (hrs/wk)	Personal SM use at Work (hrs/wk)	Work SM use at Work (hrs/wk)	Work SM use at Home (hrs/wk)
Cooperation	-.007	.148*	.108	.036	.081	.145*
Intention to share info.	.078	.149*	.069	-.043	-.036	.058
Job satisfaction	-.041	.162**	.076	.051	.073	.155**
Knowledge Exchange	.135*	.174**	.129*	.038	.058	.145*

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed)

The use hypothesis was partially supported for knowledge exchange, cooperation and intention to share knowledge for work-related social media acts (Table 5.16). Hours per week of personal social media use at home and work-related social media use at home correlated with knowledge exchange. Cooperation and job satisfaction showed significant correlations for work-related social media acts as well as work-related use in hours per week at home. Personal social media use at home correlated weakly (.129, p < .05) with knowledge exchange. This appears to confirm a lack of carry over from personal social media use to work-related social media use. On the other hand, a positive organizational climate does appear to be correlated with work-related social media use outside of the work site.

The preceding discussion showed some significant associations – three out of four hours-per-week indicators -- of social media use with higher levels of trust in management. The same association for cooperation and job satisfaction was found only for hours of use at home related to work. A variety of work-related social media acts was related to knowledge sharing, cooperation, intention to share information and job satisfaction.

Years of personal adoption of social media at home and at work were significantly related to social media acts and hours of social media use. However, there is not necessarily a carry over from use of social media to desirable organizational climate values. In the Table 5.17 below it is evident that the links from activity to trust, knowledge exchange and cooperation are spotty at best. Trust in management correlated with company social media. Knowledge exchange correlated with years of personal social media use (p = .05). The single item on the norm for sharing information

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correlated at the p = .01 level with company encouragement of social media and years of

personal use of social media. The previous Table 5.16 provided some evidence that

actual use, not just when it began, had a stronger, but not dramatically stronger,

relationship to knowledge sharing, trust and cooperation. Job satisfaction is a strong

correlate of knowledge sharing and work-related social media use at home.

Table 5.17 Encouragement of social media, use and organizational climate

Scale	Company encourage-ment of social media	Years of personal use of social media	Years of work-related social media use	Trust in manage-ment	Job satisfac-tion
Personal SM acts	.037	.360**	.171**	-.006	-.041
Work SM acts	.385**	.363**	.469**	.220**	.162**
Personal SM use at Home (hrs/wk)	.132*	.191**	.102	-.011	.076
Personal SM use at Work (hrs/wk)	.345**	.208**	.326**	.173**	.051
Work SM use at Work (hrs/wk)	.499**	.379**	.521**	.198**	.073
Work SM use at Home (hrs/wk)	.364**	.262**	.324**	.173**	.155**
Trust in management	.161**	.024	.053	1.0	.654**
Trust in coworkers	.077	.069	-.019	.679	.631**
Knowledge exchange	.081	.138*	.009	.651**	.592**
Cooperation	.095	.087	.009	.647**	.559**
Subjective norm for sharing	.181**	.173**	.068	.549**	.438**

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed)

In addition to previously validated scales, a number of perception questions about social media aimed at social capital were part of the survey. A subset of questions is considered next in relation to the last set of hypotheses. The question is to what extent these perceptions are strengthened by organizational climate variables and social media indices.

H4.1: Individual participants will perceive work-related social media to be more desirable if they help build strong ties – cohesion, closure -- within their organization.

Five items dealt with the closure dimension of social capital. Their correlations are in Table 5.18 that follows.

- I feel closer attachment to other employees in our company because of social media. (SMBD8)
- Learning about the lives and hobbies of other employees from their social media postings facilitates working relationships. (SMBD10)
- Even if I were to spend a little too much time with social media, the contacts and relationships gained or improved are worth it. (SMBD13)
- Social media give me perspective on what's going on around the company. (SMBD17)
- Social media strengthen relationships in my work group. SMBD22

The correlation on each of the items with the coworker trust scales is significant for the combined benevolence trust and integrity trust scale. Coworker competence trust is not significantly correlated on four of the five items. The other scales with some cells of non-significance are intention to share information, personal social media years of use

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Table 5.18 Correlations on Closure Social Capital Items

	I feel closer attach-ment to other employees in our company because of social media. SMBD8	Learning about the lives and hobbies of other employees from their social media postings facilitates working relationships. SMBD10	Even if I were to spend a little too much time with social media, the contacts and relation-ships gained or improved are worth it. SMBD 13	Social media give me perspecti ve on what's going on around the company . SMBD17	Social media strength en relation-ships in my work group. SMBD2 2
Coworker trust - benevolence & integrity	.243(**)	.232(**)	.191(**)	.202(**)	.205(**)
Coworker competence trust	0.107	0.072	0.078	.122(*)	0.059
Trust of Mgmt	.321(**)	.315(**)	.284(**)	.251(**)	.324(**)
Company SM IndexT	.271(**)	.326(**)	.299(**)	.303(**)	.377(**)
SMEncouragement by mgmt YrsT	.356(**)	.350(**)	.301(**)	.281(**)	.426(**)
SM Personal yrs use IndexT	0.092	.202(**)	.164(**)	.125(*)	.196(**)
SM Work-related use yrs IndexT	.287(**)	.323(**)	.267(**)	.240(**)	.342(**)
SMhrWatWT- work-related hours use at work	.362(**)	.316(**)	.299(**)	.341(**)	.382(**)
SMhrWatHT work-related hours of use at home	.363(**)	.312(**)	.369(**)	.339(**)	.401(**)
SMhrPatHhrsT personal hours of use at home	.119(*)	0.099	.140(*)	.150(*)	.180(**)
SMhrPatWhrsT personal hours of use at work	.306(**)	.288(**)	.359(**)	.334(**)	.312(**)
Cooperation	.200(**)	.212(**)	.187(**)	.198(**)	.221(**)
Job satisfaction JSSS2	.227(**)	.243(**)	.188(**)	.215(**)	.247(**)
Intent to share info	0.059	0.087	.119(*)	.154(*)	0.091
Knowledge exchange	.197(**)	.279(**)	.226(**)	.200(**)	.231(**)
Norm for sharing info	.158(**)	.186(**)	.114(*)	.146(*)	.174(**)
Autonomy1	.153(*)	.177(**)	.182(**)	.191(**)	.117(*)
CoPolicy facilitating SM	.424(**)	.397(**)	.348(**)	.340(**)	.451(**)
PSMactsT personal SM acts	0.043	0.092	.202(**)	.151(*)	0.077

Table 5.18 (Continued) Correlations on Closure Social Capital Items

	I feel closer attach-ment to other employees in our company because of social media. SMBD8	Learning about the lives and hobbies of other employees from their social media postings facilitates working relationships. SMBD10	Even if I were to spend a little too much time with social media, the contacts and relation-ships gained or improved are worth it.SMBD 13	Social media give me perspecti ve on what's going on around the company . SMBD17	Social media strength en relation-ships in my work group. SMBD2 2
CoPolicy facilitating SM	.424(**)	.397(**)	.348(**)	.340(**)	.451(**)
PSMactsT personal SM acts	0.043	0.092	.202(**)	.151(*)	0.077
WSMactsT work-related SM acts	.295(**)	.277(**)	.332(**)	.337(**)	.311(**)
NumPprof personal profiles	.211(**)	.202(**)	.248(**)	.262(**)	.245(**)
NumWprof work-related profiles	.415(**)	.365(**)	.352(**)	.394(**)	.352(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

and recent personal social media acts. Almost all social media index correlations are

significant the $P \leq .01$ level. The social media encouragement index and the years of use

of social media at work are consistent with the hypothesis that employees believe that

social media support the closure dimension of social capital.

H4.2: Individual participants will perceive work-related social media to be more desirable if those media build weak ties – brokerage – within and outside the firm, i.e. they bring in people outside the primary work group.

Two items specifically address this hypothesis:

- Social media have increased the cross-departmental range of my contacts within my firm. SMBD2

- Social media have increased my business contacts outside my firm. SMBD3

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The perception of brokerage social capital being aided by social media has a pattern very similar to that of closure. See Table 5.19. The correlations with coworker competence are not significant while the correlations with coworker integrity and benevolence trust are significant at the .01 level. Trust in management correlated positively and significantly as well. The correlations with cooperation and job satisfaction are both significant at the .01 level. Like closure social capital, knowledge exchange correlated with agreement with the statements but intent to share information had no correlation. Overall, the employees in the sample recognize the brokerage function potential of social media. The hypothesis is supported.

Table 5.19 Correlations of brokerage items

	Social media have increased the cross-departmental range of my contacts within my firm. SMBD2	Social media have increased my business contacts outside my firm. SMBD3
Coworker Trust benevolence & integrity	.207(**)	.209(**)
Coworker competence trust	0.032	0.089
Trust of Mgmt	.281(**)	.289(**)
Company SM IndexT	.382(**)	.344(**)
SMEncouragement by mgmt YrsT	.455(**)	.413(**)
SM Personal yrs use IndexT	.236(**)	.183(**)
SM Work-related use yrs IndexT	.446(**)	.383(**)
SMhrWatWT- work-related hours use at work	.416(**)	.483(**)
SMhrWatHT work-related hours of use at home	.387(**)	.398(**)
SMhrPatHhrsT personal hours of use at home	.180(**)	.195(**)
SMhrPatWhrsT personal hours of use at work	.308(**)	.384(**)
Cooperation	.184(**)	.171(**)

Table 5.19 (Continued) Correlations of brokerage items

	Social media have increased the cross-departmental range of my contacts within my firm. SMBD2	Social media have increased my business contacts outside my firm. SMBD3
Job satisfaction JSSS2	.191(**)	.182(**)
Intent to share info	-0.038	0.015
Knowledge exchange	.200(**)	.195(**)
Norm for sharing info	.133(*)	.138(*)
Autonomy1	0.103	.139(*)
CoPolicy Facilitating SM	.483(**)	.479(**)
PSMactsT personal SM acts	0.075	.171(**)
WSMactsT work-related SM acts	.334(**)	.385(**)
NumPprof personal profiles	.257(**)	.336(**)
NumWprof work-related profiles	.427(**)	.489(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

The next two hypotheses relate to a change in communication patterns or a return to an old one.

H4.3: **Employees who use social media will be more likely to favor social media as substitutes for email.**

H4.4 **Use of social media will stimulate the use of phone contacts.**

Again, the pattern of correlations with organizational climate variables and social media indices supports both hypotheses as shown in Table 5.25 below.

Table 5.20 Social Media as Changing Communication Patterns

	Collaboration sites and wikis are better than email for project coordination. SMBD14	Social media sometimes cause me to phone or email a person. SMBD25
Coworker Trust benevolence & integrity	.249(**)	.171(**)
Coworker competence trust	.132(*)	0.054
Trust of Mgmt	.270(**)	.225(**)
Company SM IndexT	.183(**)	.283(**)
SMEncouragement by mgmt YrsT	.278(**)	.320(**)
SM Personal yrs use IndexT	0.092	.147(*)
SM Work-related use yrs IndexT	.158(**)	.276(**)
SMhrWatWT- work-related hours use at work	.307(**)	.392(**)
SMhrWatHT work-related hours of use at home	.227(**)	.416(**)
SMhrPatHhrsT personal hours of use at home	.124(*)	.155(**)
SMhrPatWhrsT personal hours of use at work	.234(**)	.362(**)
Cooperation	.204(**)	.159(**)
Job satisfaction JSSS2	.216(**)	.172(**)
Intent to share info	.128(*)	0.050
Knowledge exchange	.247(**)	.146(*)
Norm for sharing info	.167(**)	0.100
Autonomy1	.168(**)	.192(**)
CoPolicy Facilitating SM	.325(**)	.389(**)
PSMactsT personal SM acts	.136(*)	.117(*)
WSMactsT work-related SM acts	.150(*)	.383(**)
NumPprof personal profiles	.196(**)	.248(**)
NumWprof work-related profiles	.229(**)	.374(**)

**Correlation is significant at the 0.01 level (1-tailed).
*Correlation is significant at the 0.05 level (1-tailed).

Overall the main hypothesis – the model – while fitting statistically, was not supported because some of the path coefficients were not significant. The correlation hypotheses involving uses of social media were generally supported. Employees have more control over uses than adoption, hypotheses about which were not supported. The hypotheses about employee awareness of the capacity of social media to facilitate building or maintaining social capital were supported.

There were some indications that a larger sample would produce more definitive results. Yet, there are contributions from this research. The implications will be discussed in the next chapter.

CHAPTER 6
DISCUSSION OF RESULTS

This research focused on the role or contribution of social media to organizational climate. It built on a human resources model linking HR policies, particularly commitment to employees, and productivity (Collins & Smith, 2006). The policies about the treatment and rewarding of employees, including how they treat each other, are taken to be drivers of the organizational culture. The routine daily interactions reflect the organizational climate. A key component of the selected organizational climate model is trust in coworkers. Related literature reviewed also pointed to trust, including trust in management, as an important component of organizational climate. Organizational culture and climate may be considered resources of the firm that enhance productivity, innovation, and recruiting and retaining talented people (Fulmer et al., 2003). The talented, engaged, educated people are the human capital of the firm.

Another form of capital, social capital, resides in the relationships of employees to each other, people outside the firm in related businesses, and in some jobs, the public, especially customers. The relationships reside in the networks of employees. Social capital does not reside in the individual or in a bank; it resides in others. If an employee leaves a firm, some of the social capital leaves with him or her in the sense that it may not be so readily available to the former organization. That loss of social capital may depend of course on whether the social media used contained only links behind a company firewall or whether they reached out to the industry and beyond as with pubic sites like Facebook. Like physical capital, social capital is subject to decay.

Into the mix of human and social capital have come changes in organizations, the

nature of work and communication technology. Businesses have become more global

and less hierarchical, less lifetime employers, increasingly knowledge-centered and more

project oriented (Castells, 2000; Heckscher & Adler, 2006). Heckscher and Adler

theorized the development of a communitarian approach to business with firms existing

as collections of collaborative communities. They placed particular emphasis on trust

requirements. Social media could have roles in maintaining the social capital and formal

collaboration mechanisms. One consequence of the new forms is a requirement for

varied organizational forms and leadership approaches in place of what used to be

primarily hierarchies. The literature review also noted that in the 20th century expensive

collaboration systems were created to cope with some of the trends noted. Now low-cost

or free social media systems are available to every person and business with an Internet

connection.

A. Contributions

Other research has documented patterns of informational and social benefits for

social media in companies. Those benefits have been confirmed in this study as well.

Where this research breaks new ground is in attempting to link social media use to

perceptions of organizational climate, in particular trustworthiness of fellow employees,

cooperation, trustworthiness of management and knowledge exchange and combination.

It went a step beyond attitudes and perceptions to gather some data on social media acts –

acts that were hypothesized and confirmed to be correlated with trust.

The organizational climate benefits may be deemed "obvious" or an inadequate

basis for granting funding to social media activities because the rate of return is hard to

quantify. Yet companies that do invest in social media appear act like they are aware of

the research linking organizational climate and productivity but rarely state it explicitly.

An exemplar company that is very active in encouraging social media use believes that

there are benefits but has not seen a need to date to monitor organizational climate with

respect to social media use. The Sr. Director of Employee Communications at computer

and software company SUN put it this way:

> "I don't know that we've done any surveying to see if there's a
> difference in attitude that's been made by blogging. I'm guessing
> that bloggers are, by nature, more engaged and passionate about the
> company, but don't really have any evidence to back this
> up."(McKenzie, 2009)

The first contribution of this research is a replication of the center part -- the

organizational climate link to knowledge exchange and combination -- of Collins and

Smith's model (Figure 3.2) with one exception and one extension. Their shared codes

and language scale was unreliable and had to be dropped despite efforts to refine it based

on the pilot study. This is disappointing and points to a need to refine the concept and

create new measures. One suggested alternative is identification with the firm and its

goals. Another is engagement with or commitment to the firm. Donath provides a social

media theory basis (Donath, 2008) that could be used to pursue the question. Despite the

problem with one scale, this research has provided replication for the center part of the

commitment-based HR practices model described by Collins and Smith.

The most significant contribution of this research is the linking of organizational

climate to social media use, especially the extension of Collins and Smith by the addition

of trust in top management. It turned out to be highly correlated with trust of coworkers,

cooperation and knowledge exchange and combination. Trust of management also was a

stronger correlate with hours per week of social media use than trust of coworkers. Social media consultants e.g., (Li & Bernoff, 2008), recommend executive buy-in and support and this study provides empirical support independent of any particular project.

Trust has a dominant role in organizational climate because it facilitates efficient operations and comfortable social interacts. Both employees and management take risk in using and enabling social media and both may consequently benefit. Management, in funding or encouraging social media, takes risk that employees may provide discussion of company matters. Suggestions may be (mis)taken as criticism to which management is not accustomed. Employees take risk by sharing expertise, subjecting their ideas to evaluation, and possibly revealing details of their lives. Both may gain by information sharing, innovation, opportunities for advancement and better and more relationships with other employees. (Organizations of course use guidelines to mitigate risks.)

All the measures of organizational climate and knowledge exchange were significantly correlated. While resolvable as distinct concepts by factor analysis, it is a reasonable expectation that organizational climate constructs would covary. In fact, it is a reasonable question as to whether or not the knowledge exchange and combination variable is an output of organizational climate or a contributor. Any of the climate indicators could suffice if a short survey were required. For example, with good measurements of both coworker trust and management trust, tapping cooperation could be unnecessary, However, in a diagnostic study there would be utility in a variety of measures.

The grand organizational climate–social media–knowledge exchange hypothesis expressed as Figure 3.3 was well supported by bivariate correlations. Obviously that is

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too optimistic a view; the model was only partially supported by satisfactory SEM fit (Figures 5.18 and 5.20) and separate multiple regression analyses. The paths between organizational climate and trust in management and organizational climate and knowledge exchange were practically and statistically significant in all cases. So was the path between social media use and trust in management. The paths between organizational climate (trust in coworkers and cooperation) and social media were positive but only suggestive in terms of statistical significance. The path between social media use and knowledge exchange was similarly in the right direction and only marginally significant. There are several explanations besides a null hypothesis of no relationship, namely sample size, colinearity of items and the normal distribution requirement. Certainly there are clues that better data would produced results and that the relationship between organizational climate and social media use is much more nuanced than a better organizational climate is linked to more social media use. Witness the quite small but statistically significant negative regression coefficients for personal social media use as predictors of work-related social media use. Those coefficients may represent tradeoffs between personal and work-related social media activity.

Looking more deeply at the variance, it is abundantly clear that having increased variety of recent social media acts at work does correlate significantly and in a positive direction with organizational climate variables, with knowledge combination and exchange, and with intention to share knowledge. Broad experience may be better than simply more hours with a limited number of social media activities or contacts.

Hours per week of social media use at work was not a good correlate of the knowledge sharing variable. However, knowledge sharing did correlate modestly with

hours, personal and work-related, at home at the p = .05 level (r = .129*, .145*). Trust of management, in contrast to coworker trust, did correlate positively with hours of social media use except for personal hours at home. Employees may feel more willing to use social media at work if they sense management trust. In that respect, a company policy of encouraging social media use had clear and positive correlations with employee social media use and adoption measures at the p = .01 level.

Organizational climate did not correlate with adoption of company social media except for trust in management and a policy of encouragement of social media use. In retrospect it is clear that climate by itself is not effective; somebody must set policy or act. A study of stealth adoption might reveal something different. Several citations in the literature review reported official and unofficial blogs and other social media but this study did not look at the roles of such activities. Much better measures would be required.

Again, trust of top management correlated with social media use and acts in relation to work, hours of personal use at work, work-related hours at work and at home, all at p ≤ .01. Coworker benevolence correlated with work-related social media acts (p = .01) and work-related acts at home (p =.05). Competence trust in coworkers correlated only with recent acts (p = .05). Cooperation correlated also at the .05 level with work-related social media hours at home and work-related social media acts.

Cooperation and knowledge sharing had no correlations with adoption indices supporting the company backing argument. In contrast, cooperation and knowledge sharing had strong correlations with coworker trust (.865** and .837** respectively) but weak connections to work-related social media acts (.148* and .149* respectively).

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Cooperation was weakly linked to work social media use at home (.145*) while knowledge sharing correlated only with personal use at home (.129*) and work use at home (.145*).

The general patterns of positive correlations held when the work-related social media users were separated from the non-users. A few of the correlations were non-significant due to the smaller numbers involved but no correlations were in the opposite direction compared to the whole sample.

There is one other pattern that may be important to note. It is that in several cases work-related social media use at <u>home</u> correlated better i.e., significantly, with organizational climate variables than work-related social media use at work. That was the case for knowledge sharing, coworker benevolence trust, job satisfaction, cooperation, and the future research variables of subjective norm for sharing and autonomy. Thus, this hypothesis is put forward: A good organizational climate stimulates employees to spend more time with work-related social networking at home. The distinction between work site and home is blurred. It may also be a reflection of the common practice of professionals taking work home with them. Stated another way, it may be that the people who are involved with, and like their work, are more likely to use work-related social media off the job – just as they may generally work more "after hours."

Employee belief that social media help them enjoy work more correlated significantly with all the indices of social media use. A related concept, job satisfaction, correlated only with employee work-related social media use at home and recent work-

related social media acts. It was highly correlated with trust, the other organizational

climate variables and knowledge sharing.

There is another blurring of the distinction between work and personal activities

shown by the relative strength of the social networking site Facebook compared to

LinkedIn. LinkedIn is generally perceived to be much more for professional profiles than

Facebook. Yet in the study sample when asked about work-related profiles, three times

as many said they had one on Facebook compared to LinkedIn. Two factors may be a

work. The first is lower cost as Facebook is free whereas the free aspects of LinkedIn are

very limited. The second, and related, is that Facebook is an open system allowing easy

installation of applications, extensions and widgets. Of course there is advertising on

Facebook but that is so common on the Internet that one hardly notices. The network

effect of the huge numbers of members also makes it more attractive. It may of course be

that the people in this study were unrepresentative of the U.S. population in that they had

a higher percentage (64%) of people with some online profile compared to Pew Internet

Project data (35%) from last year (Lenhart, 2009). However, the ratio of Facebook to

LinkedIn was about the same, three to one, whether for personal or business use. In the

Pew data MySpace had 50% to 22% for Facebook whereas in this study, Facebook had

46% to 28% advantage over MySpace.

Another finding of this research is that employees are well aware of the potential

of social media to perform the brokerage and closure functions of social capital. People

who thought that social media served those purposes were also higher on the

organizational climate variables with correlations that suggest practical significance as

well as statistical significance. They understood that maintaining relationships takes

some effort. In terms of the Adler & Kwon (2002) social capital model, employees have the ability and motivation to build social capital. Their companies will benefit if they provide opportunities for employees to use social media.

A minor contribution is replication of findings of informational, social and technology change social media benefits perceptions found at IBM by Jackson, et al. (2007). The sample of this research was quite different from that of IBM.

Another minor contribution is the replication of parts of the Bock, et al. (2005) study on knowledge sharing and organizational climate that was done in Korea. Their research was also based on different theory. This research confirmed the importance of their subjective norm for information sharing variable and autonomy variable. In similar high-tech firms in the U.S., autonomy was an important climate variable (Janz & Prasarnphanich, 2003). There was an initially surprising weakness of the intention to share information scale compared to Collins & Smith's. In this study there may have been a misunderstanding that knowledge exchange and intention to share questions were implying that the specific knowledge – plans, manuals, etc. – would be conducted over public social media rather than those behind a firewall – or perhaps from outside of work. The intent was not to make such a connection but this dictates some caution in the wording and explanation of future research.

This research provides an answer to the question posed by Paul & McDaniel (2004) (Figure 2.4) as to whether integrative trust is new or a mixture. From this research it is a mixture of benevolence and integrity with competence trust, with trust in ability remaining distinct.

Also on the subject of trust, this research demonstrated that for coworkers competence trust is separate from benevolence trust and has an impact on information sharing. This contrasted with trust of top management where competence trust made less of a difference in factor analysis and subsequent correlation with other variables.

B. Limitations

The sample of respondents was good in that it had people from a wide range of businesses and occupations. Samples from media-savvy firms have an important place in social media research too but having made investments in social media may make them representative of firms taking similar action.

However, there were limitations created by use of a respondent pool. The people are volunteers, and like the many people who took Psychology 1 in college and had to be subjects in research, they are affected by the experience. They may not put in much effort to think about their answers. The pool may be better than the proprietary pools run by technology consultancies because the respondents in the Syracuse pool were not specifically recruited for technology use research but rather for general social science interest or simply interest in the rewards.

The size of the sample was toward the low end of satisfactory. Larger samples should be used going forward.

Self-reporting is another limitation. This line of research should strive to get logs of actual behavior. Increasingly social media software and social networking sites are make these details available to users and their management.

C. Practical Contributions

The research provides some basis for guidance to firms on making good use of social media to increase performance by building social capital. A trusting organizational climate is a resource of the firm to be nurtured and protected by appropriate policies. This research shows a clear correlation between social media use and beneficial organizational climate variables, particularly trust in top management and benevolence trust of coworkers.

Mobilizing people, building relationships, increasing knowledge and sharing can be productively started with small measures, small amounts participation, and small amounts of risk in trusting employees. Small amounts of participation are correlated with better organizational climates.

This research showed that many employees are ready and able to help their companies by participating in work-related social media. They understand how they and their companies may both benefit. Employees appear to have reservoirs of social media experience. Companies need to remember that relationships take maintenance which in turn requires resources. Building and maintaining a good organizational climate can provide instrumental benefits such as innovative ideas and efficiency via employees enjoying expressive benefits.

D. Suggestions for Future Research

Surveys of employees by nature usually contain questions about organizational climate. A few added questions about social media use would add theoretical and practical insights. Some companies are explicitly encouraging and evaluating the social networks of their employees (Cross & Thomas, 2009). Getting companies to open up

with or without anonymity granted to employees is a challenge. A larger challenge appears to be the survey contractors' consideration of their survey contents as proprietary.

There is also a challenge to employees if their networks are monitored by management. Companies will need to tread carefully so that benefits accrue to both employees and the companies.

Research should be done on the consequences of differentiation between benevolence and integrity trust of coworkers and competence trust. A major research question always in the background of this study is the role of affect. Yes, information exchange is important but affect is the facilitator which social media use may promote. The literature review provides a starting point for such research together with the evidence here of the importance of benevolence trust.

A different approach would be to use an actor to present alternative social media policies to a group of subjects. The policies could vary on degree of control, scope of the audience, organizational support, and management participation, for examples. The hypothetical social media policies would vary in the degree of responsibility and control given to employee contributors. The participants in the different treatment groups would complete organizational climate, including trust, surveys based on their experience and perception of the policies.

A related research question is about individual propensity to trust and social media use in organizations. Other research has shown the importance of personality. The excellent scales of McKnight, D. H., Choudhury, V. & Kacmar, C. (2002) on disposition to trust would be a good basis after adjusting for their e-commerce focus.

Another large question is the appropriate level of participation, including both time and media/site variety dimensions, in companies and departments. The answer "more is better" is clearly wrong as there would be no time left for work. As with the question of type of social media participation – internal vs. external, social network vs. blog, Facebook vs. LinkedIn, etc. – the answer is of course, "It depends." How and on what? Research on those issues is already under way at large firms like IBM and HP. The subject would be a good one for the collaboration engineering mini-track at HICSS. As Putnam pointed out it is not necessary to for everybody to participate for social capital to benefit a community because of network effects (Putnam, 2007). While this research showed a strong belief in the power of social media to build social capital, the roles within the work group leave much to be explored.

The role of written norms, policies, values statements and mission statements and their impact on social media use patterns is another important research question. Before this research was cut down to a reasonable size, that was included.

Finally, future research should also deal with social media's potential to neutralize gossip that is often destructive via a process Burt calls echo in which groups reinforce hearsay about others.

> "Closure is not associated with trust *per se*. It is associated with more certain, intense feelings. Here lie stories about group-think, scapegoating, stereotypes, and reputations otherwise distorted by echo-amplified distrust. Here too lie positive stories amplifying trust in charismatic leaders, and transcendental visions of a better future."(Burt, 2005, 222)

Explicating social media's role in maximizing the benefits of social capital is the ongoing research challenge.

Appendix A – Questionnaire: Printed version of the on-line instrument

Welcome to the Organizational Climate and Social Media Survey-2

The consent form below explains about the survey and your rights and protections as a participant. Thank you in advance for your assistance. 2/12/09

Agreement to Participate in Collaborative or Social Media and Organizational Climate Study
Daniel (Dan) C. Smith
Primary Investigator
808-951-4632 smithdan@hawaii.edu

This research project is being conducted as a component of a dissertation for a doctoral degree. The purpose of the project is to learn how much employees use social media, social networks or use other collaboration technology personally and as part of their employment, and the relationships with organizational climate. You are being asked to participate because you, your firm or organization was randomly selected from a large pool, because you are among a group of people likely to have employment and/or media experience, or you volunteered.

Participation in the project will consist of filling out a form at a secure site on the Internet, or in paper form, on background information about you and your job, and a series of questions about how you participate in various social media at work. There are also questions about the organizational climate, and trust relationships within your work unit and within your firm or organization. Data from the survey will be summarized into broad categories. No personally-identifying or firm-identifying information will be included with the research results. Completion of the survey should take about 20 minutes.

The investigator believes there is little or no risk to participating in this research project. However, there may be a small benefit or risk that you will be stimulated to think about how the questions might apply to your firm. Again, the data will combined with others and neither your firm nor you will be identified in the research reports. No individual or potentially-identifiable work unit responses will be disclosed.

Participating in this research may be of no direct benefit to you. It is believed, however, the aggregate results from this project may help firms improve their blogging or social media policies and practices.

Research data will be confidential to the extent allowed by law. Agencies with research oversight, in particular the University of Hawaii Committee on Human Studies, have the authority to review research data. All research records will be stored in a locked file or secure computer storage in the primary investigator's office for the duration of the research project. All identifying research records will be destroyed upon completion of the project.

Participation in this research project is completely voluntary. You are free to withdraw from participation at any time during the duration of the project with no penalty, or loss of benefit to which you would otherwise be entitled.

If you have any questions regarding this research project, please contact the researcher, Dan Smith at (808) 951-4632, email smithdan@hawaii.edu.

If you have any questions regarding your rights as a research participant, please contact the University of Hawaii Committee on Human Studies at (808) 956-5007.

Participant:
I have read and understand the above information, and agree (below) to participate in this research project.

1. Put in your Survey Response ID. The ID provides only a link for participation credit but not your identity. Your identity and answers remain protected and anonymous.

Survey Response ID [   ]

2. Agreement to participate.

◯ I agree to participate.

◯ I don't agree to participate.

Background information

Here we ask some brief questions about your background and experience. It has text boxes and check boxes. The survey uses a lot check buttons or boxes and some drop-down menus. In a few places there are comment boxes where you can optionally type in information.

For good display on the screen the pages are divided into a number of smaller ones.

Please note that some questions have "negative wording" so the agree - disagree choices may reverse.

3. Your work in business or not-for-profit. A few facts.

Total years of work?	
Years in current or last job?	
And what type of job is that current or last job?	
Industry?	
About how many employees in the firm or organization?	

4. Your age?

Years

5. Gender

☐ Male   ☐ Female

Organizational Climate

There are no right or wrong answers to the questions on the several pages that follow. They go by quickly but do of course give your thoughtful opinions or reactions. For students, think of your "day job." Thank you for your participation!

6. In light of your experience at your company or organization, think about your work environment. For each statement mark the choice that best describes how much you agree or disagree with each statement. If you are not currently working, think about the last company that you worked for.

	Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
My coworkers have a strong sense of justice.	◯	◯	◯	◯	◯
I never have to worry about whether my co-workers will stick to their word.	◯	◯	◯	◯	◯
My coworkers try hard to be fair in dealings with others	◯	◯	◯	◯	◯
Sound principles seem to guide my co-worker's behavior.	◯	◯	◯	◯	◯
My coworkers really look out for what is important to me.	◯	◯	◯	◯	◯
My coworkers are very concerned about my welfare.	◯	◯	◯	◯	◯
My needs and desires are very important to my coworkers.	◯	◯	◯	◯	◯
My coworkers will go out of their way to help me.	◯	◯	◯	◯	◯
My coworkers are very capable of performing their jobs.	◯	◯	◯	◯	◯

More on the Organizational Climate

Please continue with the questions below.

7. In light of your experience at your company or organization -- called "here" or "this company" --, think about your work environment. For each statement mark the choice that best describes how much you agree or disagree with each statement. If you are not currently working, think about the last company that you worked for.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel confident about my co-workers' skills.	◯	◯	◯	◯	◯
My coworkers have extensive knowledge about the work that they need to do.	◯	◯	◯	◯	◯
My coworkers are known to be successful about the things they do.	◯	◯	◯	◯	◯
Employees here are enthusiastic about pursuing shared goals of the organization.	◯	◯	◯	◯	◯
Employees in this company have trouble understanding each other when working together on a project.	◯	◯	◯	◯	◯
Our employees all know something about each other's area of expertise.	◯	◯	◯	◯	◯
I will always share my manuals, methodologies and models with the members of my organization.	◯	◯	◯	◯	◯

8. (Continued) In light of your experience at your company or organization -- called "here" or "this company" --, think about your work environment. For each statement mark the choice that best describes how much you agree or disagree with each statement. If you are not currently working, think about the last company that you worked for.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Employees have trouble following each other when they talk about work.	◯	◯	◯	◯	◯
Employees here expect full cooperation from each other when it comes to work.	◯	◯	◯	◯	◯
I intend to share my know-how from work more frequently in the future.	◯	◯	◯	◯	◯
I will always provide my know-where and know-whom at the request of other organizational members.	◯	◯	◯	◯	◯
Employees at this company are supportive of each other when they make mistakes.	◯	◯	◯	◯	◯
Our employees here are open to criticism about their work.	◯	◯	◯	◯	◯
In general, I expect that the employees here will cooperate with each other.	◯	◯	◯	◯	◯

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Organizational Climate (continued)

A few more questions . . .

9. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about conditions at your workplace.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Employees see benefits from exchanging and combining ideas with one another.	○	○	○	○	○
Employees believe that by exchanging and combining ideas they can move projects or initiatives forward more quickly than by working alone.	○	○	○	○	○
At the end of each day, our employees feel that they have learned from each other by exchanging and combining ideas.	○	○	○	○	○
Employees at this company are proficient at combining and exchanging ideas to solve problems or create opportunities.	○	○	○	○	○

10. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about conditions at your workplace.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Employees in this company do not do a good job of sharing their individual ideas to come up with new ideas, products, or services.	○	○	○	○	○
Employees here are capable of sharing their expertise to bring news products or initiatives to fruition.	○	○	○	○	○
The employees in this company are willing to exchange and combine ideas with their co-workers.	○	○	○	○	○
It is rare for employees to exchange and combine ideas to find solutions to problems.	○	○	○	○	○
My colleagues think that we should all share knowledge with other members of the organization.	○	○	○	○	○

11. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about conditions at your workplace.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Generally speaking, I am very satisfied with my job.	◯	◯	◯	◯	◯
People doing my job often think of quitting.	◯	◯	◯	◯	◯
I get a lot of personal growth and development from doing my job.	◯	◯	◯	◯	◯
I can exercise a lot of independent thought and action in doing my job.	◯	◯	◯	◯	◯
I feel very confident about top management's skills.	◯	◯	◯	◯	◯
Top management's words and actions are not very consistent.	◯	◯	◯	◯	◯
Top management really looks out for what is important to employees.	◯	◯	◯	◯	◯
Top management empowers employees.	◯	◯	◯	◯	◯

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12. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about conditions at your workplace.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Top management is very capable of doing its job.	○	○	○	○	○
Top management is very concerned with employee welfare.	○	○	○	○	○
Top management tries to be fair in dealing with everybody.	○	○	○	○	○
Top management is known to be successful in the things that it tries to do.	○	○	○	○	○
The needs and desires of employees are very important to top management.	○	○	○	○	○
I never have to worry if top management will stick to its word.	○	○	○	○	○

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Company Social Media Options

This page starts a series of questions on your opportunities for participation in social media. That participation may range from none to occasional browsing, or being the host of a site. Consider the broad range of media and sites from from personal to practical, business or political. The media include blogs, social networking, picture, music, and video sharing, wiki's, micro-blogging presence services, and others.

13. Here we ask about various social media that your company or organization may have.

My company or organization has these social media since the year:

	N/A	2000 and prior	2001	2002	2003	2004	2005	2006	2007	2008	2009
Internal directories of people and expertise	O	O	O	O	O	O	O	O	O	O	O
Internal blog(s)	O	O	O	O	O	O	O	O	O	O	O
External blog(s) by just a few leaders for spokes people	O	O	O	O	O	O	O	O	O	O	O
External blogs by any employee	O	O	O	O	O	O	O	O	O	O	O
Internal wiki's or collaboration site(s)	O	O	O	O	O	O	O	O	O	O	O
External wiki's	O	O	O	O	O	O	O	O	O	O	O
Internal social networking sites with pictures, profiles, etc.	O	O	O	O	O	O	O	O	O	O	O
A social or professional network on a public social network site such as Facebook, YouTube etc.	O	O	O	O	O	O	O	O	O	O	O
Collaboration site(s) with outside partners.	O	O	O	O	O	O	O	O	O	O	O

Are the other social media that you firm has?

Company social media policies

14. My company has or does not have policies about use of social media by employees, identified with the company, as follows. Indicate the approximate year the policy started. If there is no such policy, mark the N/A button.

	N/A	2000 and prior	2001	2002	2003	2004	2005	2006	2007	2008	2009
A prohibition on participation in blogs and social networks on the Web.	○	○	○	○	○	○	○	○	○	○	○
A policy with guidelines allowing participation in blogs and social networks on the Web.	○	○	○	○	○	○	○	○	○	○	○
Policies encouraging participation in blogs wiki's, social networks, etc.	○	○	○	○	○	○	○	○	○	○	○

Additional (optional) comments or information on employee policies about participation in social media

When did you start to use social media?

15. In what year did you start non work-related, personal use of social media?

	N/A	2000 and prior	2001	2002	2003	2004	2005	2006	2007	2008	2009
Blog or wiki reading or commenting / posting NOT related to work?	○	○	○	○	○	○	○	○	○	○	○
Social networking, including profiles, pictures, audio or video not related to work?	○	○	○	○	○	○	○	○	○	○	○

16. In what year did you start use of company- or work-related social media?

	N/A	2000 and prior	2001	2002	2003	2004	2005	2006	2007	2008	2009
Blog or wiki reading or posting / commenting related to work?	○	○	○	○	○	○	○	○	○	○	○
Social or business networking, including profiles, pictures, audio or video?	○	○	○	○	○	○	○	○	○	○	○

How much time do you spend on social media RELATED TO WORK these days?

17. Over the past two months, estimate about how how many HOURS per WEEK TOTAL, on the average, you spent viewing or contributing to social media -- blogs, picture & video sharing, networking, wiki's etc. -- RELATED TO WORK.
Use the drop-down menus.

Average Hrs/week Work-related sites

At work, work-related   [▼]

At home or away from
work but related to work   [▼]

Social Media Sites Used At or About Work

18. Blogs were among the early social and/or collaborative media used by people in organizations. Now there are many social media. If you conduct work-related participation or profile updating while at work in any of the more popular ones below, check all that apply. If there are others -- we know that there are many --, please note them in the comment box below.

	LinkedIn	YouTube	Live-Journal	MySpace	Facebook	Flickr	Twitter	Del.icio.us	My own blog	One or more industry sites
Scan	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Have profile on	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Which do you consider as your primary one?	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other Social Media Sites you regularly visit or use (please list)

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Personal Social Media Use -- NOT related to work

19. Over the past two months, estimate about how many HOURS per WEEK TOTAL, on the average, you spent viewing or contributing to non work-related social media -- blogs, picture & video sharing, networking, etc. -- both at work and away from work.
Use the drop-down menus.

Average Hrs/week Non-Work-related sites

At home or away from work	[▼]
At work but not related to work	[▼]

Personal Social Media Used -- not related to work

20. Now what social media sites do you participate in personally and are not related to work? Some of the more popular ones are listed below. Mark all that apply. If you use others, please note them in the comment box below.

	LinkedIn	YouTube	Live-Journal	MySpace	Facebook	Flickr	Twitter	My own blog	Del.icio.us
Scan	☐	☐	☐	☐	☐	☐	☐	☐	☐
Have a profile	☐	☐	☐	☐	☐	☐	☐	☐	☐
Which do you consider as your primary one?	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other Social Media Sites that you visit or use regularly (please list)

Social Media Participation

Here we ask about some specific activities. Please check the boxes.

21. Check the boxes to indicate the online social media activities that you participated in within the past month (past 30 days): Mark all that apply.

	Personal	Professional/Work-related
Published something to your blog	☐	☐
Published your own Web pages	☐	☐
Uploaded video you created	☐	☐
Wrote articles or stories and posted them	☐	☐
Posted ratings/reviews of products or services	☐	☐
Commented on someone else's blog	☐	☐
Contributed to online forums	☐	☐
Contributed to/edit articles in a wiki	☐	☐
Used RSS feeds	☐	☐
Added tags to Web pages or photos	☐	☐
"Voted" for Web sites online	☐	☐
Maintained profile on a social networking site	☐	☐
Visited social networking sites	☐	☐
Read blogs	☐	☐
Watched video from others	☐	☐
Listened to podcasts	☐	☐
Read online forums	☐	☐
Read customer ratings/reviews	☐	☐
None of these activities	☐	☐

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Finally, social media benefits or drawbacks at work

Think of social media broadly, including social network sites, blogs, wiki's, video sharing, etc.

22. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about social media.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Social media are an easy way to record my work and make it visible.	○	○	○	○	○
Social media have increased the cross-departmental range of my contacts within my firm .	○	○	○	○	○
Social media have increased my business contacts outside my firm.	○	○	○	○	○
Social media help me locate experts or information that can help me.	○	○	○	○	○
I believe that time spent building relationships with social media is time well spent.	○	○	○	○	○
Social media help us constructively challenge our assumptions.	○	○	○	○	○
Social media help us reach good and/or innovative solutions.	○	○	○	○	○

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Social media benefits or drawbacks

Think of social media broadly, including social network sites, blogs, wiki's, video sharing, etc.

23. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about social media.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel closer attachment to other employees in our company because of social media.	◯	◯	◯	◯	◯
On our company social media I can test ideas in a low-risk environment.	◯	◯	◯	◯	◯
Learning about the lives and hobbies of other employees from their social media postings facilitates working relationships.	◯	◯	◯	◯	◯
The work-related social media are a waste of time.	◯	◯	◯	◯	◯
Social media help me enjoy work more.	◯	◯	◯	◯	◯
Even if I were to spend a little too much time with social media, the contacts and relationships gained or improved are worth it.	◯	◯	◯	◯	◯

Social media benefits or drawbacks

Think of social media broadly, including social network sites, blogs, wiki's, video sharing, etc.

24. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about social media.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
Collaboration sites and wikis are better than email for project coordination.	◯	◯	◯	◯	◯
I am cautious about what I post on company or external social media.	◯	◯	◯	◯	◯
I have shared some of my knowledge with other employees by social media.	◯	◯	◯	◯	◯
Social media give me perspective on what's going on around the company.	◯	◯	◯	◯	◯
When I contribute to a company social media it may help me work with new people in the future.	◯	◯	◯	◯	◯
I don't mind asking for help via social media.	◯	◯	◯	◯	◯
I am concerned that social media can be recorded "forever."	◯	◯	◯	◯	◯

Social media benefits or drawbacks

Think of social media broadly, including social network sites, blogs, wiki's, video sharing, etc.

25. Consider your own views and then mark the choice that best describes how much you agree or disagree with each statement about social media.

	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
My company believes that it is good to spend time building relationships by social media.	◯	◯	◯	◯	◯
Social media strengthen relationships in my work group.	◯	◯	◯	◯	◯
Social media have helped me get feedback on an idea or solve a problem.	◯	◯	◯	◯	◯
Social tagging and bookmarking sites help my work.	◯	◯	◯	◯	◯
Social media sometimes cause me to phone or email a person.	◯	◯	◯	◯	◯
Social media help me advance in my job.	◯	◯	◯	◯	◯
The "social" content of social media is as important as the "business" part.	◯	◯	◯	◯	◯

Thank you very much!

26. Please add any comments you may wish on social media or this survey. My sincere thanks for your participation.

Appendix B Information on Respondents.

Gender * Participation Cross tabulation

			Participation		Total
			non-responder	responder	
Gender	**male**	Count	**57**	**119**	**176**
		% within Particip	47.1%	51.1%	49.7%
		% of Total	16.1%	33.6%	49.7%
	female	Count	**64**	**114**	**178**
		% within Particip	52.9%	48.9%	50.3%
		% of Total	18.1%	32.2%	50.3%
Total		Count	**121**	**233**	**354**
		% within Gender	34.2%	65.8%	100.0%
		% within Particip	100.0%	100.0%	100.0%
		% of Total	34.2%	65.8%	100.0%

Chi-Square Tests for Gender - Participation

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.501	1	.479

Education

Education level * Participation - Crosstabulation

			Participation		Total
			non-responder	responder	
Education level	Less than high school	Count	**0**	**3**	**3**
		% within Particip	.0%	1.3%	.9%
		% of Total	.0%	.9%	.9%
	High school	Count	**12**	**29**	**41**
		% within Particip	10.1%	12.5%	11.7%
		% of Total	3.4%	8.3%	11.7%
	Associates degree	Count	**11**	**33**	**44**
		% within Particip	9.2%	14.2%	12.5%
		% of Total	3.1%	9.4%	12.5%
	Some college, no degree	Count	**36**	**58**	**94**
		% within Particip	30.3%	25.0%	26.8%
		% of Total	10.3%	16.5%	26.8%
	4 year college degree	Count	**25**	**60**	**85**
		% within Particip	21.0%	25.9%	24.2%
		% of Total	7.1%	17.1%	24.2%
	some grad school, no degree	Count	**7**	**13**	**20**
		% within Particip	5.9%	5.6%	5.7%
		% of Total	2.0%	3.7%	5.7%
	masters degree	Count	**24**	**25**	**49**
		% within Particip	20.2%	10.8%	14.0%
		% of Total	6.8%	7.1%	14.0%
	Ph.D., MD, JD, or other advanced degree	Count	**4**	**11**	**15**
		% within Particip	3.4%	4.7%	4.3%
		% of Total	1.1%	3.1%	4.3%
Total		Count	**119**	**232**	**351**
		% within Education level	33.9%	66.1%	100.0%
		% within Particip	100.0%	100.0%	100.0%
		% of Total	33.9%	66.1%	100.0%

Chi-Square Test, Education

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	10.395(a)	7	.167
N of Valid Cases	351		

a 2 cells (12.5%) have expected count less than 5. The minimum expected count is 1.02.

Age

Age in years (Binned) * Participant Cross tabulation

			Particip non-responder	responder	Total
Age in years (Binned)	18-26	Count	16	29	45
		% of Total	4.5%	8.2%	12.7%
	27-31	Count	21	33	54
		% of Total	5.9%	9.3%	15.3%
	32-34	Count	8	26	34
		% of Total	2.3%	7.3%	9.6%
	35-39	Count	16	32	48
		% of Total	4.5%	9.0%	13.6%
	40-44	Count	19	28	47
		% of Total	5.4%	7.9%	13.3%
	45-48	Count	9	32	41
		% of Total	2.5%	9.0%	11.6%
	49-52	Count	18	23	41
		% of Total	5.1%	6.5%	11.6%
	53-75	Count	14	30	44
		% of Total	4.0%	8.5%	12.4%
Total		Count	121	233	354
		% within Age in years (Binned)	34.2%	65.8%	100.0%
		% of Total	34.2%	65.8%	100.0%

Chi-Square Test for Age Differences between Responders and Non-responders

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	7.672(a)	7	.362
N of Valid Cases	354		

a 0 cells (.0%) have expected count less than 5. The minimum expected count is 11.62.

Occupation

Occupation Code * Participation Crosstabulation

		Participation		Total
Occupation Code	% of responders	non-responders	responder	
Accounting or financial	6.9	6	16	22
Administration support	10.7	14	25	39
Art/entertainment	0.4	5	1	6
Banking	0.9	1	2	3
Biotechnology/Pharmaceuticals	0.4	1	1	2
Construction Mining Trades	2.1	2	5	7
Consulting	3.0	5	7	12
Customer service	5.2	7	12	19
Education/Training	6.4	9	15	24
Engineering or design	0.9	4	2	6
Employment placement	0.4	0	1	1
Government/Policy	3.9	1	9	10
Health or safety	8.2	4	19	23
Hospitality/Tourism	0.4	3	1	4
Installation/Maintenance/Repair	1.3	0	3	3
Insurance	2.6	1	6	7
Law Enforcement/Security	0.0	0	2	2
Legal	2.1	3	5	8
Library	1.3	2	3	5
Managerial	3.9	2	9	11
Marketing or merchandising	0.2	2	0	2
Military	1.3	0	3	3
Non-Profit/Social Services	4.3	3	10	13
Personnel/Human Resources	0.4	0	1	1
Production manufact. bldg. or const.	2.1	3	5	8
Research	1.3	2	3	5
Restaurant/Food Service	1.3	2	3	5
Retail/Wholesale	4.7	12	11	23
Technology (Web design computer	3.0	8	7	15
Telecommunications	2.1	1	5	6
Transportation/Warehousing	4.3	1	10	11
Other (please specify)	11.2	9	26	35
Homemaker	0.0	1	0	1
Student	1.7	4	4	8
Unemployed	0.0	1	0	1
Retired	0.0	1	0	1
Child care/day care	0.4	1	1	2
Total	Count	121	233	354
	% of Total	34.2%	65.8%	100.0

Chi-Square Test for Occupational Differences between Responders and Non-responders

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	49.216(a)	36	.070
N of Valid Cases	354		

a 50 cells (67.6%) have expected count less than 5. The minimum expected count is .34.

Other sample considerations

Three significant MBA programs in Honolulu were approached with requests to survey

students from all the MBA programs with substantial in-person components in Honolulu.

Each draws from somewhat different populations and is not selected on the basis of

blogging experience. None was able to make useful numbers of students available for

this study.

Appendix C   Descriptive statistics and correlations

Descriptive Statistics

Variable or Index	Mean	Std. Deviation	N
PSMactsT - personal SM acts	4.60	4.24	230
WSMactsT -work-related SM acts	1.04	2.22	233
CWTrust - Benevolence & integrity trust of coworkers	39.72	8.27	226
CWcompetence - competence trust of coworkers	15.68	2.96	234
Cooperation	14.89	2.85	234
ISHSS - intent to share info	11.88	2.09	233
ISHnew revised intent to share scale	19.74	3.21	232
JSSS2 - job satisfaction	7.56	1.75	234
Trust of Mgmt -- benevolence, integrity, competence	30.99	8.44	232
SMhrPatHhrsT - personal SM hours at home	3.20	4.56	230
SMhrPatWhrsT - personal SM hours at work	1.46	2.95	227
SMhrWatWT - work-related SM hours at work	1.51	2.99	230
SMhrWatHT - work-related SM hours at home	2.24	3.97	233
SMPyrIndexT - personal start of SM use index	3.16	4.42	211
SMWyrIndexT - work-related start of SM use index	1.93	3.61	221
CoPolicyFac - company SM toleration + encouragement	2.56	5.16	233
Age	42.01	11.76	235
KEscale2 original knowledge exchange scale	30.06	5.64	235
KEtrim - trimmed knowledge exchange scale from factor	19.01	3.64	233
SMEncouragYrsT - years of social media encouragement	0.69	1.78	222
CoSMIndexT - index of social media in company	9.80	12.60	210
NumWprof - number of work-related soc. net profiles	0.98	1.36	235
NumPprof - number of personal soc. net profiles	1.26	1.44	235
Autonomy1 - 1 item	3.91	0.99	235
SHNORM1 - subjective norm for info sharing, 1 item	3.77	0.88	235
TMCSS - competence trust of mgmt original scale	10.82	2.79	234
TMBSS - benevolence trust of mgmt original scale	10.01	3.04	234
TMISS - integrity trust of mgmt original scale	10.07	3.08	187
CWI - coworker integrity trust original scale	14.85	3.13	231
CWBenevolence - coworker original scale	13.93	3.50	230

Descriptive Statistics (continued)			
Variable or Index	Mean	Std. Deviation	N
Social media are an easy way to record my work and make it visible.- SMBD1	3.03	1.03	231
Social media have increased the cross-departmental range of my contacts within my firm. SMBD2	2.68	1.19	231
Social media have increased my business contacts outside my firm. SMBD3	2.68	1.26	231
Social media help me locate experts or information that can help me. SMBD4	2.88	1.20	231
I believe that time spent building relationships with social media is time well spent. SMBD5	3.13	1.08	230
Social media help us constructively challenge our assumptions. SMBD6	3.11	1.08	231
Social media help us reach good and/or innovative solutions. SMBD7	3.15	1.08	230
I feel closer attachment to other employees in our company because of social media. SMBD8	2.51	1.08	231
On our company social media I can test ideas in a low-risk environment. SMBD9	2.68	1.15	231
Learning about the lives and hobbies of other employees from their social media postings facilitates working relationships. SMBD10	2.90	1.20	230
The work-related social media are a waste of time. SMBD11	2.94	1.07	231
Social media help me enjoy work more. SMBD12	2.83	1.13	229
Even if I were to spend a little too much time with social media, the contacts and relationships gained or improved are worth it. SMBD 13	2.95	1.07	229
Collaboration sites and wikis are better than email for project coordination. SMBD14	2.98	0.96	230
I am cautious about what I post on company or external social media. SMBD15	3.75	0.91	230
I have shared some of my knowledge with other employees by social media. SMBD16	2.83	1.22	230
Social media give me perspective on what's going on around the company. SMBD17	2.89	1.15	230
When I contribute to a company social media it may help me work with new people in the future. SMBD18	3.00	1.10	230
I don't mind asking for help via social media. SBBD19	3.03	1.16	230

Descriptive Statistics (continued)			
Variable or Index	Mean	Std. Deviation	N
I am concerned that social media can be recorded "forever." SMBD20	3.38	1.11	230
My company believes that it is good to spend time building relationships by social media. SMBD21	2.63	1.08	231
Social media strengthen relationships in my work group. SMBD22	2.78	1.12	231
Social media have helped me get feedback on an idea or solve a problem. SMBD23	2.80	1.23	230
Social tagging and bookmarking sites help my work. SMBD24	2.66	1.16	230
Social media sometimes cause me to phone or email a person. SMBD25	2.89	1.21	231
Social media help me advance in my job. SMBD26	2.62	1.16	231
The "social" content of social media is as important as the "business" part. SMBD27	2.89	1.14	231

Correlations

	PSMactsT	WSMactsT	CWTrust	Cwcompe-tence subscale	Cooper-ation	ISHSS
PSMactsT	1	.319**	0.072	.136*	-0.007	0.059
WSMactsT	.319**	1	.183**	.136*	.148*	.183**
CWTrust	0.072	.183**	1	.850**	.865**	.585**
CWcompetence	.136*	.136*	.850**	1	.670**	.550**
Cooperation	-0.007	.148*	.865**	.670**	1	.579**
ISHSS	0.059	.183**	.585**	.550**	.579**	1
ISHnew	0.078	.149*	.682**	.639**	.710**	.951**
JSSS2	-0.041	.162**	.631**	.551**	.559**	.486**
Trust of Mgmt	-0.006	.220**	.679**	.513**	.647**	.436**
SMhrPatHhrsT	.305**	.166**	0.087	0.051	0.108	0.058
SMhrPatWhrsT	.188**	.461**	0.081	-0.021	0.036	-0.002
SMhrWatWT	.139*	.421**	0.055	-0.038	0.081	-0.022
SMhrWatHT	.214**	.344**	.112*	0.056	.145*	0.068
SMPyrIndexT	.360**	.363**	0.069	0.070	0.087	-0.004
SMWyrIndexT	.171**	.469**	-0.019	-0.092	0.009	-0.103
CoPolicyFac	0.058	.366**	0.108	-0.006	0.108	-0.015
Age	-0.083	-0.091	-0.001	0.069	0.005	0.079
KEscale2	0.109	.120*	.788**	.683**	.743**	.530**
KEtrim	.135*	.174**	.837**	.702**	.767**	.556**
SMEncouragYrsT	0.037	.385**	0.077	-0.034	0.095	-0.051
CoSMIndexT	0.083	.441**	0.023	-0.056	0.054	-0.032
NumWprof	.294**	.453**	0.034	-0.025	0.055	-0.040
NumPprof	.463**	.293**	.117*	0.083	0.105	0.029
Autonomy1	0.013	.166**	.562**	.472**	.501**	.500**
SHNORM1	0.088	.153**	.706**	.561**	.674**	.578**
TMCSS	0.013	.185**	.631**	.529**	.613**	.481**
TMBSS	0.011	.202**	.657**	.469**	.618**	.358**
TMISS	-0.013	.163*	.603**	.493**	.581**	.373**
CWIntegrity	0.059	.174**	.923**	.733**	.762**	.572**
CWBenevolence	0.066	.205**	.897**	.637**	.693**	.456**

Correlations (continued)

	PSMactsT	WSMactsT	CWTrust	Cwcompe-tence subscale	Cooper-ation	ISHSS
SMBD1	.161**	.269**	.350**	.248**	.308**	.178**
SMBD2	0.075	.334**	.207**	0.032	.184**	-0.072
SMBD3	.171**	.385**	.209**	0.089	.171**	-0.008
SMBD4	.135*	.344**	.234**	.129*	.189**	0.095
SMBD5	.293**	.332**	.268**	.167**	.282**	0.103
SMBD6	.259**	.336**	.223**	.150*	.234**	.158**
SMBD7	.307**	.355**	.236**	.146*	.222**	.123*
SMBD8	0.043	.295**	.243**	0.107	.200**	0.040
SMBD9	0.083	.363**	.184**	0.048	.158**	0.025
SMBD10	0.092	.277**	.232**	0.072	.212**	0.081
SMBD11	-.171**	0.062	-0.065	-0.105	-0.028	-0.077
SMBD12	.118*	.360**	.251**	.148*	.236**	0.083
SMBD13	.202**	.332**	.191**	0.078	.187**	.111*
SMBD14	.136*	.150*	.249**	.132*	.204**	0.079
SMBD15	.136*	0.095	0.091	0.070	0.057	.159**
SMBD16	0.085	.363**	.195**	0.058	.170**	0.006
SMBD17	.151*	.337**	.202**	.122*	.198**	.140*
SMBD18	.133*	.356**	.239**	.127*	.254**	.141*
SMBD19	.165**	.337**	.172**	.128*	.176**	.121*
SMBD20	-0.065	0.054	0.025	-0.056	0.026	0.007
SMBD21	0.089	.379**	.252**	.126*	.251**	0.099
SMBD22	0.077	.311**	.205**	0.059	.221**	0.072
SMBD23	.139*	.376**	.167**	0.041	.157**	-0.010
SMBD24	.137*	.387**	.196**	0.078	.186**	0.041
SMBD25	.117*	.383**	.171**	0.054	.159**	0.061
SMBD26	0.017	.337**	.196**	0.056	.192**	0.045
SMBD27	.192**	.359**	.182**	0.039	.188**	0.058

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	ISHnew	JSSS2	Trust of Mgmt	SMhrPat-HhrsT	SMhrPat-WhrsT	SMhrWat-WT
PSMactsT	0.078	-0.041	-0.006	.305**	.188**	.139*
WSMactsT	.149*	.162**	.220**	.166**	.461**	.421**
CWTrust	.682**	.631**	.679**	0.087	0.081	0.055
CWcompetence	.639**	.551**	.513**	0.051	-0.021	-0.038
Cooperation	.710**	.559**	.647**	0.108	0.036	0.081
ISHSS	.951**	.486**	.436**	0.058	-0.002	-0.022
ISHnew	1	.521**	.491**	0.069	-0.043	-0.036
JSSS2	.521**	1	.654**	0.076	0.051	0.073
Trust of Mgmt	.491**	.654**	1	-0.011	.173**	.198**
SMhrPatHhrsT	0.069	0.076	-0.011	1	.337**	.302**
SMhrPatWhrsT	-0.043	0.051	.173**	.337**	1	.648**
SMhrWatWT	-0.036	0.073	.198**	.302**	.648**	1
SMhrWatHT	0.058	.155**	.173**	.425**	.543**	.637**
SMPyrIndexT	-0.001	-0.016	0.024	.191**	.208**	.379**
SMWyrIndexT	-.119*	-0.050	0.053	0.102	.326**	.521**
CoPolicyFac	-0.025	0.049	.160**	.146*	.375**	.536**
Age	0.089	0.001	-0.053	-.180**	-.329**	-.250**
KEscale2	.642**	.540**	.598**	0.101	-0.048	-0.025
KEtrim	.652**	.592**	.651**	.129*	0.038	0.058
SMEncouragYrsT	-0.059	0.013	.161**	.132*	.346**	.499**
CoSMIndexT	-0.069	-0.011	0.069	0.093	.376**	.502**
NumWprof	-0.035	0.075	.133*	.215**	.349**	.372**
NumPprof	0.055	0.040	0.089	.435**	.421**	.292**
Autonomy1	.510**	.635**	.498**	0.038	0.088	0.065
SHNORM1	.630**	.438**	.549**	0.074	0.060	0.067
TMCSS	.541**	.631**	.941**	-0.007	.110*	.135*
TMBSS	.403**	.606**	.951**	-0.009	.191**	.221**
TMISS	.442**	.566**	.893**	-0.023	0.077	0.102
CWIntegrity	.662**	.577**	.637**	0.063	0.041	0.003
CWBenevolence	.517**	.551**	.604**	0.089	.176**	.132*

Correlations (continued)

	ISHnew	JSSS2	Trust of Mgmt	SMhrPat-HhrsT	SMhrPat-WhrsT	SMhrWat-WT
SMBD1	.231**	.245**	.338**	.252**	.198**	.287**
SMBD2	-0.038	.191**	.281**	.180**	.308**	.416**
SMBD3	0.015	.182**	.289**	.195**	.384**	.483**
SMBD4	.113*	.202**	.247**	.184**	.328**	.366**
SMBD5	.148*	.201**	.266**	.302**	.339**	.337**
SMBD6	.174**	.150*	.191**	.276**	.327**	.348**
SMBD7	.135*	.152*	.228**	.256**	.304**	.316**
SMBD8	0.059	.227**	.321**	.119*	.306**	.362**
SMBD9	0.025	.214**	.343**	0.106	.310**	.397**
SMBD10	0.087	.243**	.315**	0.099	.288**	.316**
SMBD11	-0.095	-0.055	-0.030	-0.035	.132*	0.046
SMBD12	0.101	.256**	.325**	.162**	.400**	.387**
SMBD13	.119*	.188**	.284**	.140*	.359**	.299**
SMBD14	.128*	.216**	.270**	.124*	.234**	.307**
SMBD15	.144*	0.052	0.042	0.090	-0.024	0.027
SMBD16	0.003	.179**	.241**	.143*	.332**	.421**
SMBD17	.154*	.215**	.251**	.150*	.334**	.341**
SMBD18	.168**	.250**	.323**	.145*	.330**	.358**
SMBD19	.116*	.149*	.248**	.165**	.298**	.321**
SMBD20	-0.014	0.073	0.051	0.043	0.065	0.032
SMBD21	0.101	.253**	.329**	.127*	.344**	.384**
SMBD22	0.091	.247**	.324**	.180**	.312**	.382**
SMBD23	-0.008	.156**	.243**	.166**	.324**	.420**
SMBD24	0.050	.197**	.261**	.130*	.323**	.390**
SMBD25	0.050	.172**	.225**	.155**	.362**	.392**
SMBD26	0.042	.200**	.329**	.119*	.369**	.414**
SMBD27	0.071	.132*	.274**	.198**	.356**	.352**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMhrW-atHT	SMPyr-IndexT	SMWyr-IndexT	CoPolicy-Fac	Age	KEscale2
PSMactsT	.214**	.360**	.171**	0.058	-0.083	0.109
WSMactsT	.344**	.363**	.469**	.366**	-0.091	.120*
CWTrust	.112*	0.069	-0.019	0.108	-0.001	.788**
CWcompetence	0.056	0.070	-0.092	-0.006	0.069	.683**
Cooperation	.145*	0.087	0.009	0.108	0.005	.743**
ISHSS	0.068	-0.004	-0.103	-0.015	0.079	.530**
ISHnew	0.058	-0.001	-.119*	-0.025	0.089	.642**
JSSS2	.155**	-0.016	-0.050	0.049	0.001	.540**
Trust of Mgmt	.173**	0.024	0.053	.160**	-0.053	.598**
SMhrPatHhrsT	.425**	.191**	0.102	.146*	-.180**	0.101
SMhrPatWhrsT	.543**	.208**	.326**	.375**	-.329**	-0.048
SMhrWatWT	.637**	.379**	.521**	.536**	-.250**	-0.025
SMhrWatHT	1	.262**	.324**	.388**	-.300**	0.076
SMPyrIndexT	.262**	1	.647**	.419**	-0.077	0.080
SMWyrIndexT	.324**	.647**	1	.610**	-.205**	-0.095
CoPolicyFac	.388**	.419**	.610**	1	-.248**	-0.010
Age	-.300**	-0.077	-.205**	-.248**	1	0.029
KEscale2	0.076	0.080	-0.095	-0.010	0.029	1
KEtrim	.145*	.138*	0.009	0.108	-0.028	.935**
SMEncourag-YrsT	.364**	.457**	.588**	.941**	-.248**	-0.027
CoSMIndexT	.411**	.474**	.660**	.665**	-.154*	-0.043
NumWprof	.418**	.292**	.426**	.339**	-.250**	-0.009
NumPprof	.351**	.301**	.239**	.272**	-.243**	0.036
Autonomy1	.199**	-0.040	-0.082	0.001	0.010	.505**
SHNORM1	.138*	.173**	0.068	.194**	-0.007	.714**
TMCSS	.153**	-0.010	-0.009	0.073	0.003	.574**
TMBSS	.151*	0.058	.114*	.222**	-.121*	.551**
TMISS	0.102	-0.046	-0.030	0.018	0.019	.615**
CWI subscale	0.053	0.015	-0.061	0.051	0.065	.728**
CWBenevolence	.118*	0.113	.118*	.191**	-0.085	.639**

Correlations (continued)

	SMhrW-atHT	SMPyr-IndexT	SMWyr-IndexT	CoPolicy-Fac	Age	KEscale2
SMBD1	.288**	.185**	.180**	.290**	-.251*	.263**
SMBD2	.387**	.236**	.446**	.483**	-.355**	0.088
SMBD3	.398**	.183**	.383**	.479**	-.333**	0.073
SMBD4	.365**	.197**	.257**	.343**	-.182**	.151*
SMBD5	.391**	.254**	.267**	.352**	-.217**	.235**
SMBD6	.379**	.226**	.216**	.280**	-.239**	.148*
SMBD7	.325**	.261**	.267**	.343**	-.221**	.183**
SMBD8	.363**	0.092	.287**	.424**	-.304**	0.100
SMBD9	.370**	.159*	.393**	.467**	-.315**	.120*
SMBD10	.312**	.202**	.323**	.397**	-.279**	.172**
SMBD11	0.095	0.052	.149*	.160**	0.034	-.268**
SMBD12	.433**	.125*	.228**	.414**	-.293**	.145*
SMBD13	.369**	.164**	.267**	.348**	-.235**	.142*
SMBD14	.227**	0.092	.158**	.325**	-.256**	.169**
SMBD15	0.097	.165**	.119*	0.040	-0.017	.127*
SMBD16	.414**	.223**	.370**	.470**	-.374**	.116*
SMBD17	.339**	.125*	.240**	.340**	-.260**	.115*
SMBD18	.399**	.235**	.293**	.408**	-.242**	.182**
SMBD19	.400**	.248**	.277**	.350**	-.257**	0.109
SMBD20	0.071	.125*	.156*	.175**	-0.085	-0.080
SMBD21	.362**	.158*	.301**	.437**	-.279**	.171**
SMBD22	.401**	.196**	.342**	.451**	-.332**	.157**
SMBD23	.467**	.215**	.390**	.482**	-.289**	.139*
SMBD24	.420**	.163**	.359**	.417**	-.285**	.121*
SMBD25	.416**	.147*	.276**	.389**	-.325**	0.070
SMBD26	.374**	.160*	.314**	.383**	-.330**	0.088
SMBD27	.359**	.276**	.323**	.361**	-.291**	.133*

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	KEtrim	SMEncourag-YrsT	Co-SMIndex T	NumW-prof	NumP-prof	Auton-omy1
PSMactsT	.135*	0.037	0.083	.294**	.463**	0.013
WSMactsT	.174**	.385**	.441**	.453**	.293**	.166**
CWTrust	.837**	0.077	0.023	0.034	.117*	.562**
Cwcompetence	.702**	-0.034	-0.056	-0.025	0.083	.472**
Cooperation	.767**	0.095	0.054	0.055	0.105	.501**
ISHSS	.556**	-0.051	-0.032	-0.040	0.029	.500**
ISHnew	.652**	-0.059	-0.069	-0.035	0.055	.510**
JSSS2	.592**	0.013	-0.011	0.075	0.040	.635**
Trust of Mgmt	.651**	.161**	0.069	.133*	0.089	.498**
SmhrPatHhrsT	.129*	.132*	0.093	.215**	.435**	0.038
SmhrPatWhrsT	0.038	.346**	.376**	.349**	.421**	0.088
SmhrWatWT	0.058	.499**	.502**	.372**	.292**	0.065
SmhrWatHT	.145*	.364**	.411**	.418**	.351**	.199**
SMPyrIndexT	.138*	.457**	.474**	.292**	.301**	-0.040
SMWyrIndexT	0.009	.588**	.660**	.426**	.239**	-0.082
CoPolicyFac	0.108	.941**	.665**	.339**	.272**	0.001
Age	-0.028	-.248**	-.154*	-.250**	-.243**	0.010
Kescale2	.935**	-0.027	-0.043	-0.009	0.036	.505**
Ketrim	1	0.081	0.054	0.042	0.100	.533**
SMEncouragYrsT	0.081	1	.650**	.324**	.270**	-0.041
CoSMIndexT	0.054	.650**	1	.378**	.287**	0.003
NumWprof	0.042	.324**	.378**	1	.594**	0.063
NumPprof	0.100	.270**	.287**	.594**	1	0.037
Autonomy1	.533**	-0.041	0.003	0.063	0.037	1
SHNORM1	.741**	.181**	0.070	0.075	.138*	.390**
TMCSS	.603**	0.076	0.018	0.083	0.066	.489**
TMBSS	.611**	.228**	.116*	.149*	0.107	.441**
TMISS	.592**	0.009	-0.069	.122*	0.083	.459**
CWI subscale	.761**	0.017	-0.034	-0.002	0.072	.519**
CWBenevolence	.714**	.158**	0.089	0.094	.150*	.471**

Correlations (continued)

	KEtrim	SMEncourag-YrsT	Co-SMIndexT	NumW-prof	NumP-prof	Auton-omy1
SMBD1	.321**	.232**	.218**	.340**	.293**	.208**
SMBD2	.200**	.455**	.382**	.427**	.257**	0.103
SMBD3	.195**	.413**	.344**	.489**	.336**	.139*
SMBD4	.231**	.287**	.307**	.399**	.262**	.222**
SMBD5	.306**	.300**	.313**	.362**	.371**	.173**
SMBD6	.214**	.214**	.276**	.304**	.306**	.212**
SMBD7	.251**	.314**	.307**	.375**	.346**	.156**
SMBD8	.197**	.356**	.271**	.415**	.211**	.153*
SMBD9	.220**	.425**	.335**	.380**	.213**	.129*
SMBD10	.279**	.350**	.326**	.365**	.202**	.177**
SMBD11	-.179**	.147*	.147*	0.092	0.033	-0.062
SMBD12	.227**	.344**	.323**	.414**	.261**	.245**
SMBD13	.226**	.301**	.299**	.352**	.248**	.182**
SMBD14	.247**	.278**	.183**	.229**	.196**	.168**
SMBD15	.136*	0.021	.121*	0.086	0.019	.113*
SMBD16	.200**	.433**	.375**	.405**	.235**	.118*
SMBD17	.200**	.281**	.303**	.394**	.262**	.191**
SMBD18	.253**	.373**	.365**	.399**	.226**	.212**
SMBD19	.197**	.317**	.260**	.344**	.277**	.170**
SMBD20	-0.021	.190**	.158*	.167**	0.011	0.023
SMBD21	.250**	.414**	.351**	.396**	.210**	.167**
SMBD22	.231**	.426**	.377**	.352**	.245**	.117*
SMBD23	.224**	.424**	.367**	.396**	.263**	0.104
SMBD24	.192**	.381**	.379**	.404**	.247**	.219**
SMBD25	.146*	.320**	.283**	.374**	.248**	.192**
SMBD26	.190**	.321**	.351**	.389**	.223**	.155**
SMBD27	.215**	.320**	.341**	.370**	.304**	.111*

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SHNORM1	TMCSS	TMBSS	TMISS	CW-Integrity	CW-Benevolence
PSMactsT	0.088	0.013	0.011	-0.013	0.059	0.066
WSMactsT	.153**	.185**	.202**	.163*	.174**	.205**
CWTrust	.706**	.631**	.657**	.603**	.923**	.897**
CWcompetence	.561**	.529**	.469**	.493**	.733**	.637**
Cooperation	.674**	.613**	.618**	.581**	.762**	.693**
ISHSS	.578**	.481**	.358**	.373**	.572**	.456**
ISHnew	.630**	.541**	.403**	.442**	.662**	.517**
JSSS2	.438**	.631**	.606**	.566**	.577**	.551**
Trust of Mgmt	.549**	.941**	.951**	.893**	.637**	.604**
SMhrPatHhrsT	0.074	-0.007	-0.009	-0.023	0.063	0.089
SMhrPatWhrsT	0.060	.110*	.191**	0.077	0.041	.176**
SMhrWatWT	0.067	.135*	.221**	0.102	0.003	.132*
SMhrWatHT	.138*	.153**	.151*	0.102	0.053	.118*
SMPyrIndexT	.173**	-0.010	0.058	-0.046	0.015	0.113
SMWyrIndexT	0.068	-0.009	.114*	-0.030	-0.061	.118*
CoPolicyFac	.194**	0.073	.222**	0.018	0.051	.191**
Age	-0.007	0.003	-.121*	0.019	0.065	-0.085
KEscale2	.714**	.574**	.551**	.615**	.728**	.639**
KEtrim	.741**	.603**	.611**	.592**	.761**	.714**
SMEncouragYrsT	.181**	0.076	.228**	0.009	0.017	.158**
CoSMIndexT	0.070	0.018	.116*	-0.069	-0.034	0.089
NumWprof	0.075	0.083	.149*	.122*	-0.002	0.094
NumPprof	.138*	0.066	0.107	0.083	0.072	.150*
Autonomy1	.390**	.489**	.441**	.459**	.519**	.471**
SHNORM1	1	.515**	.528**	.520**	.648**	.625**
TMCSS	.515**	1	.832**	.845**	.608**	.510**
TMBSS	.528**	.832**	1	.821**	.587**	.622**
TMISS	.520**	.845**	.821**	1	.578**	.508**
CWIntegrity	.648**	.608**	.587**	.578**	1	.768**
CWBenevolence	.625**	.510**	.622**	.508**	.768**	1

Correlations (continued)

	SHNORM1	TMCSS	TMBSS	TMISS	CW-Integrity	CW-Benevolence
SMBD1	.225**	.330**	.326**	.280**	.301**	.339**
SMBD2	.133*	.217**	.326**	.167*	.120*	.312**
SMBD3	.138*	.234**	.328**	.194**	.129*	.281**
SMBD4	.145*	.210**	.261**	.213**	.165**	.286**
SMBD5	.210**	.246**	.262**	.160*	.221**	.266**
SMBD6	.163**	.186**	.185**	0.101	.154*	.236**
SMBD7	.200**	.202**	.240**	0.117	.179**	.256**
SMBD8	.158**	.279**	.328**	.243**	.172**	.323**
SMBD9	.145*	.292**	.348**	.262**	0.105	.276**
SMBD10	.186**	.237**	.348**	.236**	.191**	.303**
SMBD11	-0.070	-0.030	-0.037	-0.107	-0.058	-0.064
SMBD12	.143*	.296**	.298**	.226**	.213**	.271**
SMBD13	.114*	.255**	.284**	.167*	.149*	.223**
SMBD14	.167**	.233**	.278**	.199**	.215**	.280**
SMBD15	0.104	0.063	0.031	0.029	0.088	0.095
SMBD16	.117*	.166**	.290**	.149*	0.098	.294**
SMBD17	.146*	.251**	.230**	.185**	.143*	.227**
SMBD18	.213**	.306**	.304**	.208**	.183**	.251**
SMBD19	.123*	.189**	.268**	.170*	0.080	.223**
SMBD20	0.028	0.044	0.057	-0.016	-0.016	0.081
SMBD21	.228**	.272**	.352**	.223**	.143*	.332**
SMBD22	.174**	.277**	.340**	.194**	.137*	.279**
SMBD23	.137*	.164**	.259**	.164*	0.081	.254**
SMBD24	.142*	.207**	.265**	.186**	.113*	.275**
SMBD25	0.100	.176**	.222**	.149*	.120*	.229**
SMBD26	0.103	.256**	.345**	.227**	0.109	.290**
SMBD27	.162**	.217**	.275**	.178**	0.107	.261**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMBD1	SMBD2	SMBD3	SMBD4	SMBD5	SMBD6
PSMactsT	.161**	0.075	.171**	.135*	.293**	.259**
WSMactsT	.269**	.334**	.385**	.344**	.332**	.336**
CWTrust	.350**	.207**	.209**	.234**	.268**	.223**
CWcompetence	.248**	0.032	0.089	.129*	.167**	.150*
Cooperation	.308**	.184**	.171**	.189**	.282**	.234**
ISHSS	.178**	-0.072	-0.008	0.095	0.103	.158**
ISHnew	.231**	-0.038	0.015	.113*	.148*	.174**
JSSS2	.245**	.191**	.182**	.202**	.201**	.150*
Trust of Mgmt	.338**	.281**	.289**	.247**	.266**	.191**
SMhrPatHhrsT	.252**	.180**	.195**	.184**	.302**	.276**
SMhrPatWhrsT	.198**	.308**	.384**	.328**	.339**	.327**
SMhrWatWT	.287**	.416**	.483**	.366**	.337**	.348**
SMhrWatHT	.288**	.387**	.398**	.365**	.391**	.379**
SMPyrIndexT	.185**	.236**	.183**	.197**	.254**	.226**
SMWyrIndexT	.180**	.446**	.383**	.257**	.267**	.216**
CoPolicyFac	.290**	.483**	.479**	.343**	.352**	.280**
Age	-.251**	-.355**	-.333**	-.182**	-.217**	-.239**
KEscale2	.263**	0.088	0.073	.151*	.235**	.148*
KEtrim	.321**	.200**	.195**	.231**	.306**	.214**
SMEncouragYrsT	.232**	.455**	.413**	.287**	.300**	.214**
CoSMIndexT	.218**	.382**	.344**	.307**	.313**	.276**
NumWprof	.340**	.427**	.489**	.399**	.362**	.304**
NumPprof	.293**	.257**	.336**	.262**	.371**	.306**
Autonomy1	.208**	0.103	.139*	.222**	.173**	.212**
SHNORM1	.225**	.133*	.138*	.145*	.210**	.163**
TMCSS	.330**	.217**	.234**	.210**	.246**	.186**
TMBSS	.326**	.326**	.328**	.261**	.262**	.185**
TMISS	.280**	.167*	.194**	.213**	.160*	0.101
CWIntegrity	.301**	.120*	.129*	.165**	.221**	.154*
CWBenevolence	.339**	.312**	.281**	.286**	.266**	.236**

Correlations (continued)

	SMBD1	SMBD2	SMBD3	SMBD4	SMBD5	SMBD6
SMBD1	1	.628**	.609**	.643**	.567**	.609**
SMBD2	.628**	1	.783**	.650**	.538**	.555**
SMBD3	.609**	.783**	1	.760**	.607**	.610**
SMBD4	.643**	.650**	.760**	1	.614**	.676**
SMBD5	.567**	.538**	.607**	.614**	1	.776**
SMBD6	.609**	.555**	.610**	.676**	.776**	1
SMBD7	.587**	.585**	.646**	.690**	.806**	.859**
SMBD8	.573**	.736**	.746**	.631**	.520**	.553**
SMBD9	.567**	.757**	.750**	.630**	.524**	.580**
SMBD10	.456**	.597**	.618**	.547**	.599**	.462**
SMBD11	0.014	0.087	0.099	0.069	-0.095	-0.055
SMBD12	.518**	.589**	.691**	.647**	.656**	.604**
SMBD13	.483**	.535**	.615**	.603**	.725**	.635**
SMBD14	.574**	.537**	.572**	.475**	.460**	.496**
SMBD15	.153*	0.029	0.059	.157**	.148*	.121*
SMBD16	.513**	.678**	.635**	.536**	.537**	.514**
SMBD17	.594**	.587**	.681**	.661**	.577**	.624**
SMBD18	.577**	.573**	.623**	.607**	.628**	.608**
SMBD19	.515**	.530**	.596**	.580**	.576**	.571**
SMBD20	.175**	.175**	.157**	.198**	0.088	0.064
SMBD21	.552**	.647**	.656**	.574**	.545**	.536**
SMBD22	.543**	.682**	.634**	.571**	.587**	.544**
SMBD23	.561**	.685**	.719**	.655**	.628**	.596**
SMBD24	.536**	.672**	.673**	.626**	.512**	.574**
SMBD25	.522**	.583**	.635**	.597**	.573**	.645**
SMBD26	.584**	.696**	.708**	.678**	.550**	.602**
SMBD27	.537**	.564**	.584**	.571**	.654**	.612**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMBD7	SMBD8	SMBD9	SMBD10	SMBD11	SMBD12
PSMactsT	.307**	0.043	0.083	0.092	-.171**	.118*
WSMactsT	.355**	.295**	.363**	.277**	0.062	.360**
CWTrust	.236**	.243**	.184**	.232**	-0.065	.251**
CWcompetence	.146*	0.107	0.048	0.072	-0.105	.148*
Cooperation	.222**	.200**	.158**	.212**	-0.028	.236**
ISHSS	.123*	0.040	0.025	0.081	-0.077	0.083
ISHnew	.135*	0.059	0.025	0.087	-0.095	0.101
JSSS2	.152*	.227**	.214**	.243**	-0.055	.256**
Trust of Mgmt	.228**	.321**	.343**	.315**	-0.030	.325**
SMhrPatHhrsT	.256**	.119*	0.106	0.099	-0.035	.162**
SMhrPatWhrsT	.304**	.306**	.310**	.288**	.132*	.400**
SMhrWatWT	.316**	.362**	.397**	.316**	0.046	.387**
SMhrWatHT	.325**	.363**	.370**	.312**	0.095	.433**
SMPyrIndexT	.261**	0.092	.159*	.202**	0.052	.125*
SMWyrIndexT	.267**	.287**	.393**	.323**	.149*	.228**
CoPolicyFac	.343**	.424**	.467**	.397**	.160**	.414**
Age	-.221**	-.304**	-.315**	-.279**	0.034	-.293**
KEscale2	.183**	0.100	.120*	.172**	-.268**	.145*
KEtrim	.251**	.197**	.220**	.279**	-.179**	.227**
SMEncouragYrsT	.314**	.356**	.425**	.350**	.147*	.344**
CoSMIndexT	.307**	.271**	.335**	.326**	.147*	.323**
NumWprof	.375**	.415**	.380**	.365**	0.092	.414**
NumPprof	.346**	.211**	.213**	.202**	0.033	.261**
Autonomy1	.156**	.153*	.129*	.177**	-0.062	.245**
SHNORM1	.200**	.158**	.145*	.186**	-0.070	.143*
TMCSS	.202**	.279**	.292**	.237**	-0.030	.296**
TMBSS	.240**	.328**	.348**	.348**	-0.037	.298**
TMISS	0.117	.243**	.262**	.236**	-0.107	.226**
CWI subscale	.179**	.172**	0.105	.191**	-0.058	.213**
CWBenevolence	.256**	.323**	.276**	.303**	-0.064	.271**

Correlations (continued)

	SMBD7	SMBD8	SMBD9	SMBD10	SMBD11	SMBD12
SMBD1	.587**	.573**	.567**	.456**	0.014	.518**
SMBD2	.585**	.736**	.757**	.597**	0.087	.589**
SMBD3	.646**	.746**	.750**	.618**	0.099	.691**
SMBD4	.690**	.631**	.630**	.547**	0.069	.647**
SMBD5	.806**	.520**	.524**	.599**	-0.095	.656**
SMBD6	.859**	.553**	.580**	.462**	-0.055	.604**
SMBD7	1	.542**	.595**	.527**	-0.075	.608**
SMBD8	.542**	1	.838**	.727**	.132*	.760**
SMBD9	.595**	.838**	1	.695**	0.086	.718**
SMBD10	.527**	.727**	.695**	1	0.003	.725**
SMBD11	-0.075	.132*	0.086	0.003	1	0.078
SMBD12	.608**	.760**	.718**	.725**	0.078	1
SMBD13	.653**	.641**	.635**	.736**	0.012	.782**
SMBD14	.538**	.602**	.597**	.490**	0.084	.524**
SMBD15	.125*	0.090	0.042	.210**	0.038	0.106
SMBD16	.554**	.689**	.696**	.621**	-0.018	.646**
SMBD17	.608**	.709**	.704**	.634**	0.044	.748**
SMBD18	.622**	.668**	.701**	.621**	0.007	.734**
SMBD19	.583**	.582**	.603**	.554**	0.051	.657**
SMBD20	0.055	.173**	.161**	.173**	.360**	.155**
SMBD21	.565**	.727**	.726**	.664**	0.075	.704**
SMBD22	.574**	.721**	.784**	.707**	0.004	.699**
SMBD23	.610**	.737**	.769**	.647**	0.011	.736**
SMBD24	.543**	.744**	.738**	.600**	0.014	.697**
SMBD25	.590**	.704**	.672**	.632**	0.045	.719**
SMBD26	.567**	.771**	.763**	.665**	0.087	.728**
SMBD27	.632**	.663**	.648**	.655**	-0.034	.672**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMBD13	SMBD14	SMBD15	SMBD16	SMBD17	SMBD18
PSMactsT	.202**	.136*	.136*	0.085	.151*	.133*
WSMactsT	.332**	.150*	0.095	.363**	.337**	.356**
CWTrust	.191**	.249**	0.091	.195**	.202**	.239**
CWcompetence	0.078	.132*	0.070	0.058	.122*	.127*
Cooperation	.187**	.204**	0.057	.170**	.198**	.254**
ISHSS	.111*	0.079	.159**	0.006	.140*	.141*
ISHnew	.119*	.128*	.144*	0.003	.154*	.168**
JSSS2	.188**	.216**	0.052	.179**	.215**	.250**
Trust of Mgmt	.284**	.270**	0.042	.241**	.251**	.323**
SMhrPatHhrsT	.140*	.124*	0.090	.143*	.150*	.145*
SMhrPatWhrsT	.359**	.234**	-0.024	.332**	.334**	.330**
SMhrWatWT	.299**	.307**	0.027	.421**	.341**	.358**
SMhrWatHT	.369**	.227**	0.097	.414**	.339**	.399**
SMPyrIndexT	.164**	0.092	.165**	.223**	.125*	.235**
SMWyrIndexT	.267**	.158**	.119*	.370**	.240**	.293**
CoPolicyFac	.348**	.325**	0.040	.470**	.340**	.408**
Age	-.235**	-.256**	-0.017	-.374**	-.260**	-.242**
KEscale2	.142*	.169**	.127*	.116*	.115*	.182**
KEtrim	.226**	.247**	.136*	.200**	.200**	.253**
SMEncouragYrsT	.301**	.278**	0.021	.433**	.281**	.373**
CoSMIndexT	.299**	.183**	.121*	.375**	.303**	.365**
NumWprof	.352**	.229**	0.086	.405**	.394**	.399**
NumPprof	.248**	.196**	0.019	.235**	.262**	.226**
Autonomy1	.182**	.168**	.113*	.118*	.191**	.212**
SHNORM1	.114*	.167**	0.104	.117*	.146*	.213**
TMCSS	.255**	.233**	0.063	.166**	.251**	.306**
TMBSS	.284**	.278**	0.031	.290**	.230**	.304**
TMISS	.167*	.199**	0.029	.149*	.185**	.208**
CWI subscale	.149*	.215**	0.088	0.098	.143*	.183**
CWBenevolence	.223**	.280**	0.095	.294**	.227**	.251**

Correlations (continued)

	SMBD13	SMBD14	SMBD15	SMBD16	SMBD17	SMBD18
SMBD1	.483**	.574**	.153*	.513**	.594**	.577**
SMBD2	.535**	.537**	0.029	.678**	.587**	.573**
SMBD3	.615**	.572**	0.059	.635**	.681**	.623**
SMBD4	.603**	.475**	.157**	.536**	.661**	.607**
SMBD5	.725**	.460**	.148*	.537**	.577**	.628**
SMBD6	.635**	.496**	.121*	.514**	.624**	.608**
SMBD7	.653**	.538**	.125*	.554**	.608**	.622**
SMBD8	.641**	.602**	0.090	.689**	.709**	.668**
SMBD9	.635**	.597**	0.042	.696**	.704**	.701**
SMBD10	.736**	.490**	.210**	.621**	.634**	.621**
SMBD11	0.012	0.084	0.038	-0.018	0.044	0.007
SMBD12	.782**	.524**	0.106	.646**	.748**	.734**
SMBD13	1	.529**	.149*	.610**	.696**	.717**
SMBD14	.529**	1	0.083	.514**	.558**	.530**
SMBD15	.149*	0.083	1	0.000	0.085	0.099
SMBD16	.610**	.514**	0.000	1	.682**	.655**
SMBD17	.696**	.558**	0.085	.682**	1	.808**
SMBD18	.717**	.530**	0.099	.655**	.808**	1
SMBD19	.678**	.508**	.123*	.651**	.689**	.714**
SMBD20	.189**	.253**	.313**	.116*	.186**	.247**
SMBD21	.608**	.569**	.119*	.678**	.674**	.660**
SMBD22	.683**	.565**	.130*	.651**	.626**	.655**
SMBD23	.685**	.581**	0.107	.725**	.737**	.709**
SMBD24	.620**	.575**	0.035	.695**	.749**	.698**
SMBD25	.670**	.537**	0.101	.662**	.673**	.646**
SMBD26	.652**	.581**	0.050	.716**	.754**	.714**
SMBD27	.715**	.560**	.158**	.602**	.611**	.695**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMBD19	SMBD20	SMBD21	SMBD22	SMBD23	SMBD24
PSMactsT	.165**	-0.065	0.089	0.077	.139*	.137*
WSMactsT	.337**	0.054	.379**	.311**	.376**	.387**
CWTrust	.172**	0.025	.252**	.205**	.167**	.196**
CWcompetence	.128*	-0.056	.126*	0.059	0.041	0.078
Cooperation	.176**	0.026	.251**	.221**	.157**	.186**
ISHSS	.121*	0.007	0.099	0.072	-0.010	0.041
ISHnew	.116*	-0.014	0.101	0.091	-0.008	0.050
JSSS2	.149*	0.073	.253**	.247**	.156**	.197**
Trust of Mgmt	.248**	0.051	.329**	.324**	.243**	.261**
SMhrPatHhrsT	.165**	0.043	.127*	.180**	.166**	.130*
SMhrPatWhrsT	.298**	0.065	.344**	.312**	.324**	.323**
SMhrWatWT	.321**	0.032	.384**	.382**	.420**	.390**
SMhrWatHT	.400**	0.071	.362**	.401**	.467**	.420**
SMPyrIndexT	.248**	.125*	.158*	.196**	.215**	.163**
SMWyrIndexT	.277**	.156*	.301**	.342**	.390**	.359**
CoPolicyFac	.350**	.175**	.437**	.451**	.482**	.417**
Age	-.257**	-0.085	-.279**	-.332**	-.289**	-.285**
KEscale2	0.109	-0.080	.171**	.157**	.139*	.121*
KEtrim	.197**	-0.021	.250**	.231**	.224**	.192**
SMEncouragYrsT	.317**	.190**	.414**	.426**	.424**	.381**
CoSMIndexT	.260**	.158*	.351**	.377**	.367**	.379**
NumWprof	.344**	.167**	.396**	.352**	.396**	.404**
NumPprof	.277**	0.011	.210**	.245**	.263**	.247**
Autonomy1	.170**	0.023	.167**	.117*	0.104	.219**
SHNORM1	.123*	0.028	.228**	.174**	.137*	.142*
TMCSS	.189**	0.044	.272**	.277**	.164**	.207**
TMBSS	.268**	0.057	.352**	.340**	.259**	.265**
TMISS	.170*	-0.016	.223**	.194**	.164*	.186**
CWI subscale	0.080	-0.016	.143*	.137*	0.081	.113*
CWBenevolence	.223**	0.081	.332**	.279**	.254**	.275**

Correlations (continued)

	SMBD19	SMBD20	SMBD21	SMBD22	SMBD23	SMBD24
SMBD1	.515**	.175**	.552**	.543**	.561**	.536**
SMBD2	.530**	.175**	.647**	.682**	.685**	.672**
SMBD3	.596**	.157**	.656**	.634**	.719**	.673**
SMBD4	.580**	.198**	.574**	.571**	.655**	.626**
SMBD5	.576**	0.088	.545**	.587**	.628**	.512**
SMBD6	.571**	0.064	.536**	.544**	.596**	.574**
SMBD7	.583**	0.055	.565**	.574**	.610**	.543**
SMBD8	.582**	.173**	.727**	.721**	.737**	.744**
SMBD9	.603**	.161**	.726**	.784**	.769**	.738**
SMBD10	.554**	.173**	.664**	.707**	.647**	.600**
SMBD11	0.051	.360**	0.075	0.004	0.011	0.014
SMBD12	.657**	.155**	.704**	.699**	.736**	.697**
SMBD13	.678**	.189**	.608**	.683**	.685**	.620**
SMBD14	.508**	.253**	.569**	.565**	.581**	.575**
SMBD15	.123*	.313**	.119*	.130*	0.107	0.035
SMBD16	.651**	.116*	.678**	.651**	.725**	.695**
SMBD17	.689**	.186**	.674**	.626**	.737**	.749**
SMBD18	.714**	.247**	.660**	.655**	.709**	.698**
SMBD19	1	.133*	.620**	.585**	.752**	.685**
SMBD20	.133*	1	.126*	.119*	.145*	.122*
SMBD21	.620**	.126*	1	.792**	.732**	.734**
SMBD22	.585**	.119*	.792**	1	.748**	.707**
SMBD23	.752**	.145*	.732**	.748**	1	.832**
SMBD24	.685**	.122*	.734**	.707**	.832**	1
SMBD25	.664**	0.101	.710**	.695**	.771**	.743**
SMBD26	.705**	.132*	.762**	.720**	.794**	.789**
SMBD27	.654**	.173**	.705**	.714**	.735**	.698**

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

Correlations (continued)

	SMBD25	SMBD26	SMBD27
PSMactsT	.117*	0.017	.192**
WSMactsT	.383**	.337**	.359**
CWTrust	.171**	.196**	.182**
CWcompetence	0.054	0.056	0.039
Cooperation	.159**	.192**	.188**
ISHSS	0.061	0.045	0.058
ISHnew	0.050	0.042	0.071
JSSS2	.172**	.200**	.132*
Trust of Mgmt	.225**	.329**	.274**
SMhrPatHhrsT	.155**	.119*	.198**
SMhrPatWhrsT	.362**	.369**	.356**
SMhrWatWT	.392**	.414**	.352**
SMhrWatHT	.416**	.374**	.359**
SMPyrIndexT	.147*	.160*	.276**
SMWyrIndexT	.276**	.314**	.323**
CoPolicyFac	.389**	.383**	.361**
Age	-.325**	-.330**	-.291**
KEscale2	0.070	0.088	.133*
KEtrim	.146*	.190**	.215**
SMEncouragYrsT	.320**	.321**	.320**
CoSMIndexT	.283**	.351**	.341**
NumWprof	.374**	.389**	.370**
NumPprof	.248**	.223**	.304**
Autonomy1	.192**	.155**	.111*
SHNORM1	0.100	0.103	.162**
TMCSS	.176**	.256**	.217**
TMBSS	.222**	.345**	.275**
TMISS	.149*	.227**	.178**
CWI subscale	.120*	0.109	0.107
CWBenevolence	.229**	.290**	.261**

Correlations (continued)

	SMBD25	SMBD26	SMBD27
SMBD1	.522**	.584**	.537**
SMBD2	.583**	.696**	.564**
SMBD3	.635**	.708**	.584**
SMBD4	.597**	.678**	.571**
SMBD5	.573**	.550**	.654**
SMBD6	.645**	.602**	.612**
SMBD7	.590**	.567**	.632**
SMBD8	.704**	.771**	.663**
SMBD9	.672**	.763**	.648**
SMBD10	.632**	.665**	.655**
SMBD11	0.045	0.087	-0.034
SMBD12	.719**	.728**	.672**
SMBD13	.670**	.652**	.715**
SMBD14	.537**	.581**	.560**
SMBD15	0.101	0.050	.158**
SMBD16	.662**	.716**	.602**
SMBD17	.673**	.754**	.611**
SMBD18	.646**	.714**	.695**
SMBD19	.664**	.705**	.654**
SMBD20	0.101	.132*	.173**
SMBD21	.710**	.762**	.705**
SMBD22	.695**	.720**	.714**
SMBD23	.771**	.794**	.735**
SMBD24	.743**	.789**	.698**
SMBD25	1	.767**	.708**
SMBD26	.767**	1	.771**
SMBD27	.708**	.771**	1

** Correlation is significant at the 0.01 level (1-tailed).

* Correlation is significant at the 0.05 level (1-tailed).

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