The Social Body of Knowledge: Nurturing Organizational Social Capital via Social Media Based Communities of Practice

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Abstract

Purpose: To develop a theoretical model that layers community structure on top of employee social media engagement to improve social capital. This improved social capital leads to tacit knowledge sharing.

Method: The proposed theoretical model is grounded in previously published research on organizational social capital and communities of practice, relevant literature, and survey research. The authors examine aspects of their previous research in social media and communities to build a theoretical model.

Results: The theoretical model shows the congruent outcomes that occur when using social media to establish communities of practice to address the problem of sharing tacit knowledge within an organization.

Conclusions: Communities of practice can form an important bridge between social media technology and people within an organization. Technical communicators can layer communities of practice on the top of social media for an effective strategy to develop increased social capital to support innovation, communication, and body of knowledge efforts.

Keywords: organizational social capital, communities of practice, social media, innovation, tacit knowledge, virtual community

Practitioner's Takeaway

- Technical communicators typically have the content development skills, access, and knowledge to direct these processes.
- Roles associated with internal communication increase the strategic activities for technical communicators within the organization.

- Technical communicators can play a role in the combination of people, technology, and knowledge to increase an organization's ability to innovate and thus stay competitive.

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Introduction

Digital communication technologies have changed workplace communication (Spilka, 2010). Internal communication in organizations is no exception and has undergone several important shifts. Carliner (2010) has noted that there has been a massive move to publish organizational content online and, second, organizations increasingly seek dialogue and feedback from employees via social, digital communication technologies, such as corporate blogs, micro-blogs, wikis, discussion forums, and social networking sites. Large corporations in the US, such as Intel, Dell, IBM and Starbucks, have adopted social media tools designed for employee social engagement (Postman, 2009). The use of social communication technologies for employee communication has begun to change the way knowledge flows within an organization and how bodies of knowledge are created. Social communication technologies generate new social structures to form social capital, that is the sum of knowledge related resources available to individuals and the collective that are embedded within a network of relationships. Highly relevant for an organization are research findings that link organizational social capital directly to organizational efficiency, the ability to share knowledge, and innovation (Inkpen & Tsang, 2005; Tsai, 2001; Tsai & Ghoshal, 1998).

The problem of sharing the knowledge in the minds of employees inside an organization—tacit knowledge—is well documented. One result of this problem is the challenge for an organization's body of knowledge to access the knowledge that resides in the minds of its people. One common model for knowledge transfer in the organization is the SECI model forwarded by Nonaka and Takeuchi (1995). The SECI model holds that people inside organizations create and transfer knowledge through a process that spirals around four exchanges: socialization, externalization, combination, and internalization. Significant to the creation and transfer of knowledge in the SECI model is the concept of tacit knowledge, described by Michael Polanyi as "… we know more than we can tell" in his work *The Tacit Dimension* (Polanyi & Sen, 1983). Bodies of knowledge struggle when it comes to codifying the knowledge in the heads of people. Consequently, the connection of people to one another is often offered as a solution. Thus, the formation of social capital between people in an organization can play a critical role in connecting the knowledge in the heads of people to other people who need that knowledge. Our model seeks to build a connection between social media, communities, and social capital to facilitate the knowledge exchange that companies need to create and share knowledge and ultimately to make it readily accessible in a body of knowledge.

The role of the technical communicator in fostering social capital is a topic with little data and more speculation. Although the trends show increased presence of digital communication technologies in the workplace, the outcomes are not always clear. Survey research recently conducted by Kline indicates that over 50% of employees at all levels of the organization— staff, management, and executives—do not believe their company has a clear process for innovation communication. This article presents a structured model for the formation of social capital through the effective use of social media to form communities of practice. To build this model, we utilize social capital and community of practice literature and build on the findings of three case studies: the first and second on organizational social capital and social media use within an organization and the third on communities of practice within organizations. Baehr and Alex-Brown (2010) examined how a corporate blog, used for employee communication, changes the formation of online social structures and organizational social capital at a large, global IT organization, Dell Inc. Alex-Brown (2011) conducted a large scale follow-up study to examine how a corporate blog and a corporate micro-blog can generate the three aspects of organizational social capital. Results indicate that both technologies under examination have the ability to facilitate the formation of all three dimensions of organizational social capital; however, they do so in different ways and to different degrees of magnitude and also vary by communicative usage model. The third study conducted by Kline and Barker (2012) examined the elements of communities of practice (CoPs) for efficient knowledge exchange. Kline and Barker (2012) researched Wenger's (1998) characterization of communities of practice in the community of a Body and Knowledge project for the Society of Technical Communication. Wenger's dimensions of *joint enterprise, mutual engagement*, and *shared repertoire* are vital elements to engage members of the community in social interaction. Additionally,

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activities within the scope of these three dimensions are important: collaboration, application, negotiation, facilitation, and active role (CANFA). Together, these three case studies are used to develop a model that organizations can use to foster knowledge sharing using social media and communities of practice. We begin with some background on our assembled theories in order to show how the use of social capital can solve the problem of connecting the knowledge in the minds of people.

Background

Framing Social Capital, Organizational Social Capital, and Communities of Practice

The theoretical model we propose leans heavily on the theories of social capital, organizational social capital and communities of practice as well as on research done on community application for knowledge sharing in an organizational setting. To align social media, social capital, and communities of practice, we need to examine the respective theories, examine linkages in the literature between communities and social capital, and review current applications to the field of technical communication. Below, we show the relation between the theories and explain how we incorporate our prior research as building blocks for a new model.

Social Capital. At the most fundamental level, social capital theory states that human relationships within a network yield certain benefits to the members of the network and the collective that would not be possible without the connections. Bourdieu (1985) was one of the first to give the term contemporary significance by describing social capital as, "the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition" (p. 248). Existing literature on organizational social capital is quite clear in linking organizational efficiency and the ability to innovate directly to organizational social capital (Burt, 2005; Davenport & Prusak, 2001; Lesser & Prusak, 2004; Okoli & Oh, 2007; Tsai & Ghoshal, 1998). To date, the impact of participatory communication technologies on internal organizational social capital has received little attention, possibly, because of the less evident connection to measurable, economic value for the organization.

Organizational Social Capital. Nahapiet and Ghoshal (1998), in their seminal study, have related social capital to organizational advantages. Tsai and Ghoshal also reviewed the concept from the perspective of an organization, and building on Nahapiet and Ghoshal's work, have described social capital as a productive resource that "encompasses many aspects of a social context, such as social ties, trusting relations, and value systems that facilitate actions of individuals located within that context"" (Tsai & Ghoshal, 1998, p. 465). Okoli and Oh (2007) have described social capital as, "'Institutionalized social relations with embedded resources' which can benefit both the collective and the individuals in the collective" (p. 242). Highly relevant for our present model, Lin (2001) has stated that building ties that afford a range of beneficial outcomes requires investments, like real capital, such as time and nurturing similar to the creation of capital; in other words creating a specific environment where social capital can thrive. Lin, Cook, and Burt (2001) have argued that tying social capital to social networks accounts for both the individual and the structure the individual is part of, via ties to other individuals.

Organizational social capital is often defined in three dimensions of social context, the *structural*, the *relational*, and the *cognitive* dimensions. Nahapiet and Ghoshal (1998) view "social capital as the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit" (p. 243). Social capital, thus, "comprises both the network and the assets that may be mobilized through that network" (p. 243). Within this definition the *structural dimension* of social capital constitutes the presence of ties a person has and can use to his or her advantage in a social structure. Structural social capital is blind to the type or kind of connection; it merely acknowledges the pattern and density of the present ties. The *relational dimension* of social capital refers to the assets inherent in an individual's relationships, such as trust and trustworthiness, norms, expectations, friendship, that have an impact on the behavior of individuals when communicating with each other. The third dimension of social capital describes the common understanding, shared code, or shared paradigm that enables a group to pursue collective goals. It is referred to as the *cognitive dimension*.

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Summarizing the main thought of Social Capital Theory, the performance of individuals, groups, and organizations in their respective socially or economically connected network is determined by social relations, norms, and values attached to social capital. Prusak and Cohen (2004) have defined social capital as the relationships that make organizations work effectively. Social capital aids knowledge development in organizations and investments in social capital by the organization "inherently serve to motivate organizational members to share knowledge" by way of membership in a community where "shared norms, trust, cognitions, and experiences stimulate goodwill and reciprocity" (Cohen & Prusak, 2001; Huysman & Wulf, 2004, p. 5). The model we propose frames the organizational investment strategy around the deliberate creation and nurturing of online communities, specifically communities of practice, maintained via social media technologies. Like social capital, communities of practice have widely accepted dimensions whose structure has been defined for a more complete understanding.

Communities of Practice. Community of Practice (CoP) is a term coined by Jean Lave and Etienne Wenger (1991) in their seminal book *Situated Learning: Legitimate Peripheral Participation*. Community of Practice theory is employed extensively for the analysis of groups; examination of situated learning experiences; exploration of virtual communities; and to explain organizational knowledge management. In his book *Communities of Practice: Learning, Meaning and Identity*, Wenger identifies three dimensions of a community of practice: First, it is a group that coheres through a "mutual engagement" that occurs within an "indigenous" or joint enterprise. These first two dimensions create a "shared repertoire" among the group participants (1998, p. 73). These three dimensions are critical to understanding successful collaboration and critical to achieving success in establishing a genuine community of practice. *Mutual engagement* means that people are engaging with one another to define and negotiate the terms of the collaboration. Many industry and academic projects refer to a sense of "buy-in" for projects. Mutual engagement takes buy-in beyond project acceptance to engagement with fellow team members. A *joint enterprise* results from engagement - people working toward a shared purpose and shared goals. This is critical because a collection of people who share similar interests is not necessarily a community

of practice unless the group collaborates toward a result or a goal. Finally, any community of practice must negotiate meaning, identity, and tools. This is what Wenger calls a *shared repertoire*, which is the language, conventions, and tools that are used for collaborative sharing in a community of practice (p. 82).

In his book Wenger also produces a table of 14 indicators that help to identify a community (1998, p. 125). These indicators include the presence of community behaviors such as sustained mutual relationships, shared ways of engaging in doing things together, and rapid flow of information. The combination of three dimensions with the 14 community indicators tightens the definition of community and better prepares the theory as a prescriptive tool to form effective communities of practice.

Community of Practice Theory as a Knowledge Management Tool

Iverson and McPhee (2008) studied the communicative processes within communities of practice and their research further elucidates the types and level of engagement exhibited by specific communities of practice. Expanding on Wenger's three components - mutual engagement, shared repertoire, and negotiation of joint enterprise - the authors stated this about communities of practice theory:

> Community of Practice theory strongly emphasizes the interactively constructed nature of engaging, sharing, and negotiating. The dynamic, processual focus on practice makes Community of Practice theory a situated framework for analyzing the dimensions of knowledge and knowledge relationships through the communicative acts of the three elements. Thus, Community of Practice theory offers a schema for analyzing knowledge as a process. (p. 179)

From 1991 to 2002, Wenger's definition of communities of practice transitioned from a social theory of learning to a management theory which could foster collaborative innovation and knowledge exchange in organizations. The transition from communities of practice as a learning method to the use of these communities as a prescriptive knowledge management tool is profound and pronounced, especially for Wenger himself. The transition shifts the focus from

an ethnographic explanation to an applied tool which management can use to foster knowledge exchange. Consequently, the major shift for the theory has really been in its purpose: away from social learning and towards knowledge management. We complete our definition of communities of practice by exploring their use within organizations to exchange knowledge.

Communities of Practice for the Organizational Management

Hemre (2005) in a case study observing the implementation of knowledge management (KM) at Ericsson Research, Canada, has described the company's focus on the aspect of building and sustaining communities of practice. Ericsson Research decided to develop and promote knowledge sharing as a first step towards a knowledge management system (KMS). They investigated collaborative technologies, people networks, and social exchanges for knowledge sharing. Their vision was to make it "possible to innovate or solve problems using the available knowledge resources wherever present in the local or global organization" (p. 156). Ericsson expected to raise the level of innovation, to retain and leverage existing knowledge, to speed up product knowledge transfer, to identify and effectively deploy best practices, to speed up problem solving, to integrate new expertise, and to accelerate learning. After a failed attempt the company implemented facilitators and confidence in the usefulness grew to where virtual communities of practice were introduced.

Hemre (2005) has noted that the proactive implementation of Communities of Practice "requires attention to people relationships, social networks, business processes, organizational behavior, change management, and technology implementation" (p. 163). According to him one size does not fit all. Among the learned best practices for community-building are keeping it low-key, guiding and nurturing the process of networking carefully, and paying special attention to the role of community leader. Organizational change can often be disruptive and needs to be planned for carefully. In summary, Hemre (2005) has noted that this effort proved that tacit knowledge sharing is accomplished by social exchanges or the networking of people.

Sustaining Organizational Capital

Sustainable social capital has to be encouraged, nurtured, and fostered by an organization. It is organic and needs room to grow and adapt to meet the individual's needs. Prusak and Cohen (2004) have named two threats for social capital in today's organization. The first has to do with the volatility of the workplace and an emerging overreliance on virtuality. The threat of virtuality, however, has been contradicted by many researchers who found positive correlations between virtual connections and the creation of social capital (Chua, Madej, & Wellman, 2011; Ellison, Steinfield, & Lampe, 2007; Gruzd, Wellman, & Takhteyev, 2011; Quan-Haase & Wellman, 2004; Resnick, 2001; Wellman, 2001; Wellman & Gulia, 1999).

The second threat is that many managers do not know how to invest in social capital. They know that healthy relationships among individuals and groups in an organization are beneficial to the company, but they lack the understanding of actively making these relationships happen. Lin (2008, p. 12) has defined three essential prerequisites for an organization to reap the benefits of social capital: the presence of network embedded resources, the ability to access these resources by the individual, and the utilization of the resources for purpose-driven actions, such as problem solving and knowledge seeking. The model suggested here seeks to apply the theory of CoP to Baehr and Alex-Brown's (2010) and Alex-Brown's (2011) case study findings that social capital can be generated in a virtual environment. The CoP must be understood as a structured, deliberate building block to increase the formation of organizational social capital generated by connections formed between members (employees) via social media communication technologies.

Communities of Practice for Virtual Communities

There are several efforts to study community of practice theory in online communities. Van den Hooff (2008) extended the Technology Acceptance Model (TAM) developed by Davis and Bagozzi (1989) to build a theory that argued the use of ICT technologies to improve both the donation and collection of knowledge in the CoP common pool of knowledge. Similarly, Sharratt and Usoro (2003) built a model that connects the success of an online community and its knowledge exchange to the perceived ease of use and usefulness of the system itself. Hildreth, Kimble, and Wright (2000) studied

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the application of community of practice to virtual communities and examined whether the concepts from Wenger and Lave's Legitimate Peripheral Participation (LPP) model translate to the virtual world. Their studies of two international companies with community of practice members across the globe help to map the LPP concepts to the digital environment. Ultimately, technology through Information and Communication Technologies (ICT) is shown to be an integral part of current communities of practice.

Virtual Communities of Practice as Catalysts for Social Capital and Knowledge Sharing

The results of a study by Tsai and Ghoshal (2007) on the effects of social capital on resource exchange in an organization reveal that social capital is positively correlated with value creation. "Informal, social relations and tacit social arrangements encourage productive resource exchange." They have found a significant correlation between the structural dimension (social ties) and the relational dimension (trust). Under this light, the benefits of social capital for a company's ability to innovate, that is to create new knowledge that contributes to the enterprise's competitiveness, are obvious. Von Hippel (2005) has observed benefits of social capital in innovation communities of independent user-innovators. The user-innovators are independent users of certain products, who form innovation communities to find ways to combine and leverage their efforts, i.e. to share useful information and knowledge.

According to Coleman (1998a), social capital enables the transfer, preservation and creation of knowledge in an organization via communication among connected employees. It is crucial to recognize that knowledge is volatile just as the individuals, communities, or networks it originated in and can be lost for the organization when the knowledge holder leaves the company. Hackos (2001) has supported this notion by acknowledging "…that content doesn't become information and information doesn't turn into knowledge unless someone knows it's there, can get to it with minimal pain, and can repurpose it by creating new information from existing content" (p. 7). She also has stated that while tools and technology are needed, content management is not about tools. Rockley (2003) has called for the strategic, intelligent management of knowledge by calling for a unified content strategy as a vital part of an organization's

business strategy. The benefits of social capital for employees and the organization are in the efficient and timely flow and management of information and knowledge. Understanding the concept of organizational social capital in terms of knowledge sharing and social context helps inform the choice and implementation of communication tools and processes needed for a global workforce to operate efficiently. Our proposed model, as part of a unified content strategy, offers an organization a process and tangible management tool to deliberately guide and promote the formation of social capital for the benefit of the organization in terms of its ability to elicit the knowledge within people's heads for innovation or communication efficacy.

Community of Practice Theory in Technical Communication

The use of Community of Practice theory within the field of technical communication is sparse, especially research involving communities to build knowledge sharing communities. Some of the technical communication literature on communities of practice is written for the industry workplace or to address pedagogical aspects of technical communication education (Fisher & Bennion, 2005; Lappenbusch & Turns, 2005). Several studies forward the idea of CoPs for advancing the profession (Bernhardt, 2002; Kline & Barker, 2012; Wick, 2000). A few technical communication articles discuss collaboration and collaborative learning without mentioning the concept of communities of practice; most notably an article in *Technical Communication Quarterly by Laura Gurak and Ann Duin entitled "The Impact of the Internet and Digital Technologies on Teaching and Research in Technical Communication" (2004).* Much of this technical communication research for communities of practice involves communities solving specific technical communication problems rather than contributing to the strategic knowledge sharing of the organization. Our article covers new territory by proposing a model to position technical communicators in strategic roles that guide the implementation of social media and guide the formation of communities of practice to share knowledge across the organization.

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Framing a Theoretical Model

To build our model we use three case studies informed by studies on content management from researchers such as Hackos and Rockley; the research on Communities of Practice by Etienne Wenger and the research on organizational social capital by researchers like Nahapiet and Ghoshal. The model was developed through analysis of the intersection and overlap of the outcomes of community and social capital on knowledge sharing activities. We begin with an explanation of the use of social media in building social capital at a large Fortune 500, global IT Solutions provider, Dell Inc.

Case Studies: Dell Inc.

The case studies conducted at Dell Inc. by co-author Alex-Brown examined how social media tools - the blog and the microblog used for internal communication - change the formation of organizational social capital. For a large, global organization such as Dell, the use of digital communication tools for internal communication has become vital to provide employees with relevant company news, organizational and business updates, and to conduct business in general. With the arrival of social media communication tools and their use for employee communication, employee engagement opportunities with each other and with management have increased. Two digital communication technologies in particular weigh heavily in the internal corporate communication landscape at Dell: the blog and the micro-blog. The internal, corporate blog is a centrally managed and moderated tool introduced and regulated by the leadership. The micro-blog is a tool without any centralized control or moderation and is based on employee participation.

The blog allows for audience participation in the form of posts, comments and dialogue between authors and readers and among readers; the micro-blog facilitates increased levels of real time communication, peer-to-peer and many-to-many communication as well as easy file and media exchange combined with an easy-to-use user interface. Both tools generate an archive of the information product, or body of knowledge, that allows employees and leaders to filter and search the content.

Case Study: TCBOK

The Technical Communication Body of Knowledge (TCBOK) project was formed in the spring of 2007 as one of five possible initiatives to improve relations between academic and industry practitioners within the discipline. Designed to be a 'Wikipedia' for the field of technical communication, the TCBOK project is sponsored by STC and volunteer members perform project activities. One expressed goal of the project was to bring together leading academics and practitioners in the field of technical communication to create a body of knowledge. This BOK project is not the first of its kind for a discipline. The Project Management Institute has codified the project management Body of Knowledge (PM-BOK). There is a Software Engineering Body of Knowledge (SWE-BOK), which was developed by the IEEE. Coppola (2010) stated that the project wanted to emulate the A/I efforts of ABET (formerly the Accreditation Board for Engineering and Technology) and also adapt an open, collaborative model such as the one used by the Usability Professionals Association.

Kline (2011) and Kline and Barker (2012) characterized the community formed by TCBOK volunteers from its initial phase in 2007 until 2010. The authors employ a modified case study to examine activities and engagement for TCBOK volunteers using Wenger's CoP dimensions of *mutual engagement, joint enterprise,* and *shared repertoire.* Their studies specifically characterize the community of practice formed by volunteers through content review of documents and archived records, examination of physical artifacts, conduct of interviews, and observation, and surveys.

Agents of Change: The Blog and Micro-Blog as Change Agents in Social Capital

Two of the case studies this article builds on, "Assessing the Value of Corporate Blogs: A Social Capital Perspective" (Baehr & Alex-Brown, 2010) and *Blogging and Micro-Blogging Inside a Large, High-Tech Corporation: Impacts on the Formation of Organizational Social Capital* (Alex-Brown, 2011), conducted at global IT solution provider Dell Inc., found that social media communication technologies do in fact change the ways in which social structures are formed by facilitating the formation and maintenance of ties among employees.

Study results indicate that there is a difference between the tools regarding which of the three dimensions of organizational social capital gets affected most. For example, trends indicate that the blog, the way it is used at Dell, facilitates the growth of cognitive social capital and that the micro-blog offers unique

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opportunities to increase structural social capital by facilitating the creation of ties among employees to a higher degree than the blog.

Relevant for this study, Alex-Brown's (2011) content analysis of the information product of social communication technologies at Dell accounts for different usage models, such as event reporting, a daily non-topic related communication and specific topic discussions, reflect a varied relative distribution of the three dimensions of organizational social capital. The topic discussion usage model where participants discuss one particular technology topic, can serve a model for a communities of practice. Results clearly indicate the formation of all three dimensions of social capital (structural, relational, and cognitive) in this usage model.

Communities of Practice Require Active Engagement

One area of overlap for our model is the need for active social engagement in the formation, maintenance, and continuation of communities of practice. In TCBOK, when participants were socially engaged the outcomes for the community were significant and notable. When the engagement was low—as a result of solitary or non-collaborative activities—the effectiveness of knowledge sharing and contribution was diminished. Kline and Barker (2012) developed the CANFA model for application to community activities to ensure that social engagement is fostered, in their case between industry and academic practitioners. However, this model is not exclusive to the formation of ties between academic and industry communities. It can be applied to our expanded model for the development of communities to support increased social capital. To build social capital within communities there needs to be participant engagement. To increase engagement a community needs to increase (or encourage) engaging activities. These activities can be made engaging through the CANFA model: *collaboration, application, negotiation, facilitation, and active-practice.*

For the TCBOK project, the CANFA model worked like this. In the early phases of the TCBOK project the participants *collaborated* on taxonomies, definitions, scopes, and technological platform selection (among other things). Through *application* of the knowledge the community becomes more engaged. For example, as early participants worked through the development of personas with a consultant, their capability to apply this

information in both professional and academic settings led to discussion and engagement. *Negotiation* is critical for engaged CoPs. The TCBOK project team negotiated definitions, scope, IP policies, and the monetization of TCBOK content. Negotiation brought the community together to reconcile divergent opinions but ensure that each participant had a voice. For the TCBOK CoP to be successful, it needed *facilitation*. It did not require the same person to lead all activities, but a person leading each particular activity or phase. In the case of TCBOK, different facilitators rose to the occasion depending upon the expertise needed for each activity. Finally, the activities need to be active. Thinking, writing, revising, and affinity diagramming all led to successful outcomes for the TCBOK community. However, the progress of later phases was slowed down by non-active "input" which lacked engagement. Input was defined as content to a wiki, input sought for strategic plans, and input with action for volunteer assignments. This dearth of active engagement led to a disinterested community with low engagement and limited social capital ties and knowledge sharing.

The CANFA principles improve the efficacy for a general community of practice or for a specific CoP to development an organization's body of knowledge. The clear relationship between engaged CoPs and the development of social capital led the current authors to propose a model which incorporates engaged CoPs to improve social capital. The remainder of the article discusses this model.

Building The SCOPOS (Social Media, CoPs, Organizational Social Capital) Model

At this point, we have reviewed how social media tools can generate social capital and have shown how Wenger's (1998) community of practice dimensions play a vital role in establishing an effective community. Additionally, we discussed the application of socially-engaged activities in a community of practice with the CANFA model. We now use these elements of social media communication and communities of practice to develop a model that technical communicators can apply to foster knowledge sharing and form social capital in an organization. We assume that the goal of knowledge sharing, community, and social capital is

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innovation. Goals other than innovation are certainly possible at the highest level of the model. Whatever goals an organization has for connecting to social capital, communities, and knowledge exchange can be adapted to this structured model.

The primary objective of the model is to structure a process or processes that organizations can use to increase knowledge sharing, thus leading to a goal of increased innovation. Early in the article, we describe the survey and focus group study that Kline conducted which shows that over 50 percent of companies do not have a clear process for innovation communication. The model can be implemented to provide direction and structure for internal social media efforts. A second outcome of the model is that the levels (floors) each provide an opportunity for technical communicators to become involved with the process of knowledge sharing. First, when these social media channels are internally focused, they provide excellent opportunity for technical communicators to assist in development when contrasted to external corporate social media, which is typically controlled by marketing or PR departments. Next, the process involves the development of communities, which often have no clear functional department within many organizations. Technical communicators can make an argument for some control of communities because of the domain areas involved: technical information shared by communities, the UX connection, and the content platforms that control the community interaction (e.g. blogs or wikis). Finally, the role of developing and structuring knowledge sharing and innovation communication moves the technical communicator from a tactical role to a strategic role in the organization.

This last outcome is a passion for many technical communicators and for the authors who are both blended academics and practitioners. If technical communication is to obtain a seat at the executive table it will require a strategic focus with an opportunity to change the organization. Fostering increased innovation through knowledge sharing and communication would certainly accomplish this for a technical communicator.

Explanation of the Model

Figure 1 shows the four levels of the SCOPOS model using a house metaphor. The ground floor (alternatively the foundation) is the use of social media technologies within an organization. The second

floor is the formation of communities of practice. These communities provide structure for employee engagement and communication and foster knowledge sharing in specific areas. The result of socially-mediated communities of practice is increased social capital. When facilitated, this increased social capital drives greater innovation through increased sharing of knowledge and establishment of clear communication processes.

Figure 1. SCOPOS Levels to Achieve Increased Innovation

The first level of the model is simply the access and integration of social media technologies. In coining the term Enterprise 2.0, Andrew McAfee (2006) describes the use of emergent social software platforms in organizations. One element to the emergent nature of McAfee's definition is the freeform nature of the tools as well as the free or low-cost access. Our Dell case studies illustrate the value, however, of a systematic approach to the adoption of emergent social software. While strategies for access and implementation are outside of the research scope of this article, users need to ensure that valuable emergent media are accessible and provide useful connection to others for knowledge sharing in the organization. Once this is accomplished, the social media tools can be used to foster communities of practice.

The second floor (level) of our model is the development of communities of practice. Kline's research on communities of practice and his characterization of the STC Body of Knowledge project (2012) inform the development of effective CoPs. More importantly,

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the formation of CoPs provides a purpose for emergent social media and underpins the development of a comprehensive knowledge sharing platform. Saint-Onge and Wallace (2012) note that there have been significant studies regarding the use of CoPs as a knowledge management tool. Wenger's (1998) early development of three dimensions for Communities in *Learning, Meaning, and Identity* - including mutual engagement, shared repertoire, and joint enterprise - provides direction for the formation of communities that accomplish knowledge sharing. Kline and Barker (2012) characterize additional factors (CANFA) that are described in the Application section below. The focus of emergent social media on forming communities of practice increases the engagement between employees and begins to form the connections that result in social capital.

The third floor of our model is social capital. The engagement of employees in communities of practice using emergent social media subsequently forms ties that result in sharing knowledge that was impossible without social connections. The three dimensions of social capital - structural, relational, and cognitive—facilitate the flow of information among members of organizational

communities of practice. It is difficult to quantify the knowledge sharing that occurs when people expand their networks to include people who would not have been in their networks in more traditional knowledge sharing structures such as expert databases and best practice case studies.

Application of the Model

This section provides guidelines for developing a structured model that builds CoPs from social media tools to improve social capital ties. We cull this information from our case study research, pilot research on innovation, and our characterization of the intersection of communities of practice and social capital activities.

Emergent Social Media. As this paper has previously stated, it is imperative to provide employees with access and suitable integration of emergent social media platforms. Kline's pilot research study on innovation communication discovered that a majority of employees at each level of management (staff, management, executive) consider e-mail to be a suitable platform for innovation communication.

Table 1. Successful Community of Practice Elements

Wenger's dimensions of community	Mutual engagement—Shared repertoire—Joint enterprise
Kline and Barker's list of community activity factors (CANFA)	Collaboration—Application—Negotiation—Facilitation—Active Role
Wenger's indicators of community	1. Sustained mutual relationships—harmonious or conflictual. 2. Shared ways of engaging in doing things together. 3. The rapid flow of information and propagation of innovation. 4. Absence of introductory preambles, as if conversations and interactions were merely the continuation of an ongoing process. 5. Very quick setup of a problem to be discussed. 6. Substantial overlap in participants' descriptions of who belongs. 7. Knowing what others know, what they can do, and how they can contribute to an enterprise. 8. Mutually defining identities. 9. The ability to assess the appropriateness of actions and products. 10. Specific tools, representations, and other artifacts. 11. Local lore, shared stories, inside jokes, knowing laughter. 12. Jargon and shortcuts to communication as well as the ease of producing new ones. 13. Certain styles recognized as displaying membership. 14. A shared discourse reflecting a certain perspective on the world.

Unfortunately, e-mail has severe limitations in its ability to form communities or develop lasting social capital connections. We suspect that the ubiquity of e-mail plus its integration within our workflow have blinded many employees and managers to e-mail limitations. Consequently, an emergent social media platform that allows collaboration, communication, and connections, should be implemented across the breadth of employees in the proposed community. For example, at Dell a blogging and a micro-blogging tool plus wikis are used for employee communication and social engagement.

Guidelines for Emergent Social Media Implementation:

- Ensure access to social media platforms for all people in the proposed community
- Integrate the platform into the workflow for employees involved in the community
- Seed either content or connections through the identification of social technology champions or dedicated community managers
- Recognize that participation and employee incentives are more important than the specific
- Ensure the implemented software and tools support remote connections and mobile connectivity

Formation of Communities of Practice. Use social media to form communities of practice. Communities of practice focus the scope and activities of emergent social media. They provide an effective pathway to knowledge sharing. Wenger's dimensions of *mutual engagement, shared repertoire,* and *joint enterprise* can help to guide the structure and activities in the community. Table 1 shows the three dimensions of a community; the 14 indicators that community is present; and the factors that can make community activities more effective. Some of the indicators are prescriptive, so they can be developed into the structure or activities of the community. Kline and Barker's STC Body of Knowledge case study research (2012) goes beyond Wenger's dimensions and factors to prescribe activities that engage community participants. The CANFA model prescribes that activities need to be *collaborative* between participants; *apply* to the work they are performing; *negotiate* the outcomes and products of the community;

structure *facilitation* into the community, and focus on *active-role* participation at the workplace. Below are some additional guidelines for CoP development.

- Homogenous communities where employees have the same technical knowledge are the easiest to start
- It is important to understand the differences between top-down and bottom-up development of CoPs
- Identify outcomes and expectations just as you would for other teams or projects.
- Employees need to engage for a community to succeed—distributing documents, sending FYI memos, or creating extra make-work projects will kill community formation.
- Communities of interest, which form around non-work topic (e.g. personal interests) can still be effective in the formation of social capital.

Increasing the Value of Social Capital Connections. Implementing social media and forming communities of practice will increase the value of the connections within the organization. The authors noticed the overlap in the indicators of community and the development of social capital as our comparison of research on bodies of knowledge progressed. The intersection of community formation and social media outcomes translates into formation of deep and lasting social connections. Ultimately, the formation of knowledge communities will help to develop the organization's body of knowledge as well as connect people to the knowledge in the minds of other employees. Engaged activities in the communities help to increase the value of social capital connections by strengthening the social capital ties between employees. Below are guidelines to increase the strength of these social capital connections through engagement:

- Negotiating results in shared and accepted ways of doing things—this builds relational social capital.
- Sustain the community—long-term mutual relationships builds structural social capital.
- Diverse communities build relational social capital—they are harder to start and maintain than homogenous communities, but establish trust between functionally different employees.

- Encourage shared discourse, stories, humor, and even jargon—these build cognitive social capital as employees share.

The value of communities of practice and their contribution to social capital is not new. However, our research shows the use of social media to develop the communities and the use of socially-engaged activities will increase the value of the social capital that forms from knowledge communities. We conclude with a short discussion and thoughts about future research.

Conclusion

Social capital theory, at the very basic level, assigns value to the social connections that people have with one another. Organizational social capital can be summed up as the benefits resulting from the ties employees form with other employees in the social structure of an organization, often independently of organizational structures. These benefits can be seen at the individual level and at the organizational level. The presence of a connection stimulates interaction, the asset inherent in the connection determines the depth of the interaction and the common paradigm among connected employees enables the common pursuit of goals. Relevant for the proposed model, social capital literature links high levels of social capital to a firm's increased ability to innovate based on improved communication among employees.

Organizational knowledge management systems, in essence, are designed to improve the knowledge flow inside of an organization to improve efficiencies of work streams and to increase the organization's ability to be innovative in an economy where knowledge is an important differentiator in a highly competitive market place. KM literature indicates a trend of moving away from technology centric, rigid information repositories agnostic of the social context they are to operate in towards people centric systems that are designed to naturally fit in the employees' work streams and social context. The SCOPOS model builds current trends of social media engagement (Enterprise 2.0) and the sharing of knowledge in communities. It provides a structure for achieving increased social capital in workplaces that are moving away from structured and hierarchical technological systems and management styles.

The proposed model could be applied at an organization like Dell by formalizing an existing loosely-organized community of engineers around a topic such as software-defined networks (SDNW). The community builds social capital by instituting a community leader who proactively facilitates community member interaction, identifies new members based on their knowledge, states specific outcome expectations (for example, identify a set of customer challenges where SDNW is a viable solution), periodically summarizes progress and by setting up a cadence of synchronous, online chat sessions in addition to the asynchronous communication.

Long-term research needs to test the proposed model in an organizational setting. Content analysis of the information product of a social media-facilitated CoP combined with participant interviews might provide strong insight into the viability of SCOPOS model.

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