

# **Tacit Knowledge and Social Capital: Supporting Sociability in Online Communities of Practice**

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**Abstract:** Creating online communities involves much more than creating software. Software houses online community activities but social interactions also depend on who is involved, what their goals are, personalities and policies. By paying attention to these sociability issues, community developers, managers and leaders can influence how a community develops. For instance, they can facilitate policies that engender sound social norms and increase social capital. This paper identifies some of the ingredients for social capital development in Communities of Practice (COP) and outlines the components of a framework for future research.

**Keywords:** Tacit knowledge, explicit knowledge, social capital, communities of practice, online communities, sociability

**Category:** A1, H5, I7

## **1 Introduction**

A community of practice (COP) is a group of people who come together to learn from each other by sharing knowledge and experiences about the activities in which they are engaged [Wen 98]. Individuals, the community and organizations can all benefit from this process. Individuals get answers to questions but they also get much more; they get support, reassurance, insights, and exposure to different value systems and beliefs. Both explicit and tacit knowledge are exchanged.

Communities of practice can be physically located, locally networked (e.g., within a company via an Intranet), virtual (i.e., networked across distance) or, as often happens, a combination of these. Originally the term COP was used widely to include almost any community that came together to discuss a specified topic; they included business, education, health communities and others. Typically the term is now associated with professional, work-oriented groups who are often associated with or hosted by companies and government agencies. In this paper I use the term COP to refer to these kinds of communities. The growth of the Internet and the World Wide Web during the last ten years has spawned many online communities of all types including CoPs.

In the next section I consider the nature of CoPs in more detail and then discuss the benefits of developing social capital. This discussion paves the way for considering how COP members, developers and managers can facilitate social capital development within the community. Finally I present some elements of a framework for social capital development and suggest an agenda for future research.

## 2 Communities of Practice (CoPs) and knowledge

Communities of Practice focus on a domain of knowledge. As the community develops its members share expertise and support by interacting to solve or help solve problems. Gradually shared solutions and insights emerge that contribute to a common store of knowledge that accumulates over time. This may be facilitated by and held externally in data bases, frequently asked questions (FAQs), or it may become 'common knowledge' within the community, or it may be held in the minds of long-term members.

CoPs, like children, ecological systems, neighborhoods or any other organic entity, evolve and change over time. People join, others leave, and new foci of interest emerge that change the CoP's character. Typically new communities focus their energy on getting started (e.g., gaining members, specifying policies), whereas established communities with well-understood norms are more concerned with domain-related issues.

Ideally CoP's develop shared communal resources, such as routines, sensibilities, artifacts, vocabulary, and styles of doing things, that help create a sense of community that socially binds members. Policies and norms of behavior facilitate establishing shared goals and expectations. Members' personalities, how they present themselves and their roles within the community determine their identities, the character of the CoP, and its boundaries.

Trust, empathy [Pre 99] and reciprocity are the building blocks for relationships that unite members. They provide conduits for the knowledge exchange and learning needed to solve problems and achieve shared goals. This knowledge takes two forms: explicit and tacit. Explicit knowledge consists of facts and actions that can be expressed formally in grammars and databases. Tacit knowledge is harder to define. Tacit knowledge consists of beliefs, opinions, sensibilities, styles of doing things, and lore that are often expressed in stories and anecdotes. Some definitions stress more subconscious elements such as bias, prejudice, unstated assumptions and attitudes that are even harder to define.

Until recently knowledge management was primarily concerned with explicit knowledge; particularly in the western world where the scientific paradigm of thought dominates. However, using evidence from almost two-dozen companies [Non, Tak 95] pointed out fundamental differences in attitudes between American and Japanese executives. The Americans tended to put their faith in explicit knowledge, relying on formal unambiguous, systematic, scientific knowledge. In contrast, the Japanese executives, were more inclined to value tacit knowledge, which took the form of body language, sensibilities, and intuitions. This type of knowledge was often ambiguous, difficult to interpret scientifically and could not be reduced to formal grammars.

More recently companies are recognizing the benefits of tacit knowledge for developing supportive relationships across teams, departments and companies. Furthermore, companies are seeing that these relationships generate new ideas, increased efficiency, and happier employees, which in turn translate into competitive advantage and increased revenue.

CoP's support both types of knowledge exchange but they have a special role tacit knowledge. Story telling, anecdotes, impromptu comments and opinions occur naturally in many CoPs. The rigors of schedules and the structure of hierarchical relationships that tends to limit informal communication in many work environments tend to be less pronounced in CoPs.

Scientists and engineers are used to working with explicit knowledge but productively harnessing tacit knowledge is more challenging. However, since tacit knowledge is

distinctly social and so is learning [Vyg 86], social processes that generate tacit knowledge may also support learning. In fact, tacit knowledge can also be helpful in understanding explicit knowledge. Metaphors and analogies are well-known vehicles for helping learners to understand new concepts in terms of things that they already know about. Indeed, one reason why stories tend to be powerful is that they often combine the use of metaphors with personal and social information. This combination can also motivate and inspire.

Using some of these ideas, Nonaka and Takeuchi suggest that the following types of knowledge conversion occur in generating new knowledge [Non, Tak 95]:

- Tacit knowledge generates new tacit knowledge by a process of socialization in which people chat with each other.
- Explicit knowledge generates new explicit knowledge by a process of combination.
- Tacit knowledge generates new explicit knowledge by a process of externalization, which I interpret to mean that if we externalize our understanding in discussing with other, together we may formalize our tacit knowledge.
- Explicit knowledge generates new tacit knowledge by a process of internalization, which I interpret to mean that if we explain our explicit knowledge to others using metaphors and analogies, we will produce meaningful tacit knowledge.

Furthermore, they suggest that metaphors and analogies help to facilitate some of these translations. Those that follow are of particular interest because they involve tacit knowledge and are likely to occur informally in CoPs.

Understanding the relationship between tacit and explicit knowledge and how they can be converted one to another is an important research challenge for CoP and knowledge management researchers. There are many tools for processing and retrieving explicit knowledge but powerful tools for eliciting, interpreting and retrieving tacit knowledge are needed. Contextual inquiry techniques used in human computer interaction [Hol, Bey 96] may provide a basis for this work, and some researchers are investigating story-telling techniques. However, these approaches tend to be manual and rely too heavily on human experts, which makes them somewhat cumbersome and slow. In addition more research is needed to examine the social potential of tacit knowledge exchange in CoPs. How do CoPs develop social capital and how does it contribute to the overall functioning of organizations?

### 3 Social Capital

Social capital is the glue that holds a community together; it is the shared knowledge, understanding, skills and offers of help needed to achieve shared goals, or help someone solve a problem [Put 00]. Unlike financial capital, social capital is usually not tangible; consequently it is less well understood and its power is underestimated. Communities that are rich in social capital tend to communicate well, spend time together, help each other, and contribute to the common good. Members offer help in return for receiving help from others – i.e., they reciprocate. Either they repay the person or people directly or they contribute to the general good of the community – a concept known as generalized reciprocity.

Unfortunately many physical as well as online communities experience too little social capital. In America, and probably in other parts of the world, social capital has declined steadily since the 1960s [Put 00]. Without social capital communities are less safe and happy. A leading question is, therefore, how can CoPs develop the social capital needed to ensure that they function successfully?

Two types of social capital can be identified: *bonding* social capital provides the glue between members of a community; and *bridging* social capital enables communities to reach out to each other. Shared goals, norms and shared values facilitate bonding social capital development. Whereas, shared artifacts may be most important for bridging social capital. For example, a document produced by one community is passed to another. Such artifacts are known as boundary objects because they help to bridge the boundaries between communities [Wen 98].

Lesser and Storck [Les, Sto 01] argue that the social capital resident in CoPs leads to behavioral changes which in turn lead to business advantage. From a study of seven CoPs Lesser and Storck identified four specific outcomes that relate to dimensions of social capital. The dimensions include: connections between people who may or may not be co-located; relationships that build a sense of trust and mutual obligation; and a common language and context that is shared by community members. In these respects CoPs are like an engine for developing social capital. As a result of meeting, sharing knowledge and support via CoPs the companies reported: faster delivery time, better and faster responses to customers, greater reuse of existing knowledge and software, increased innovation, and better links and relations with customers. In addition, and perhaps most interesting of all, these researchers report that CoPs contributed to reducing the learning curve among their employees. What might be the mechanism for achieving such gains? How is tacit knowledge exchange through informal social communication related to social capital development?

#### **4 Social Capital Development**

Much is known about developing online communities [Pre 00]. For example, we know that identity, an important attribute for successful interaction is challenged online, particularly in textual environments. When entering textual environments, people leave their bodies (and body-language) behind, which can severely hamper common ground development. Empathy and trust are also affected [Pre 99]. However the role of empathy and trust is complex because sometimes they develop too easily - a phenomenon known as a hyper-personalization [Wal 96]. Hyperpersonal responses occur when one person reaches out to another person online offering friendship and promises of support, which the other needy person accepts without questioning or knowing the person. A type of artificial closeness develops that usually ends with the first person irresponsibly disappearing without trace. Several remedies have been suggested. Mimicking real-life with immersive environments or substituting appealing 3-D graphical ones is one of the most popular but often least successful except in gaming environments. Some communities use photographs or web pages of members, or graphical representations, but many participants are happy with text providing login names are meaningful and identifiable.

Trust relies on believing that a person will behave reasonably and will do what they say. Our sense of empathy with the person may also come into play. The more we empathize the more we feel that the other person is like us and therefore we trust them. Work by [Axe 84] identified three conditions that encourage reciprocity: (i) if there is a strong chance of meeting the person again, (ii) if the person can be identified; and (iii) if the person's past behavior is known.

Ingenious software developers have come-up with ideas to explicitly assess trustworthiness, validate claims, and acknowledge effort. Such software may help to encourage responsibility, reciprocity and ultimately, social capital development. E-bay provides a system for purchasers to rate the service they experience from vendors. Amazon

invites readers to rate and comment upon books. The Linux community acknowledges its top contributors by naming them. Indeed some commentators suggest that the Linux community is strong because of the high degree of participation and reciprocity, and the pride the community members have in their accomplishments.

## 5 Conclusions

CoP developers and managers often do not know exactly what makes some online communities thrive while others flounder or become digital ghost towns. Contrary to much popular opinion software does not equate with community. Software provides only a place where community happens when *people* come together for a *purpose* guided by *policies* that help to shape their online behavior [Pre 00].

Community developers can ensure that new COPs get off to a good start by working with and involving the participants of the new community. If the developers are themselves part of the COP this will be easier than if they are not. Developers who are not participants in the community will have to try especially hard to involve the community. It will be important to understand as much as possible about the needs and aspirations of participants and a variety of techniques are available for this purpose, including contextual inquiry and ethnographic approaches.

A clear, short statement of purpose and a well-chosen name, prominently displayed on the community's home page and repeated on other applications, signals the community's intentions and can contribute positively towards success. For many communities this is one of the most important design features. Deciding on policies that will guide the community during its early development is tricky and a minimalist approach that acts as a scaffold for community development is often appropriate. Then, as participants get to know each other norms develop that help to shape the community's governance [Pre 00].

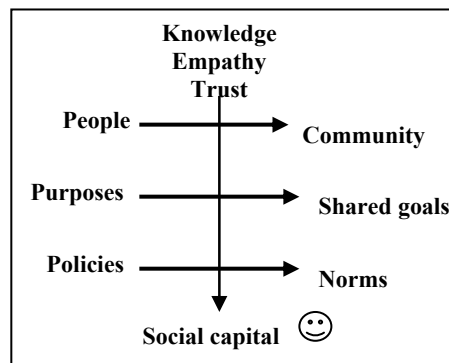
The changes that occur during community development can be summarized as:

- People think and act as part of a community rather than as individuals.
- Individuals' goals and aspirations are subsumed in the community's goals.
- Policies that guided the young community are replaced or supplemented by norms.

The extent to which these transformations occur depends on many factors. Some factors can be influenced by the developers but others depend on the participants' personalities and fate. Communities also go through different stages as they evolve and mature.

It takes time for social capital to develop because social capital depends on empathy and trust, which develop as participants get to know each other by working and learning together and interacting socially. As this happens people exchange information, support and favors and develop a sense of responsibility towards each other and the CoP (Gon, Riz 01].

Knowledge – the main commodity of most CoPs – appears to impact social capital development in interesting ways. Knowledge has two roles: it is a community good (i.e., social capital) and it is also a facilitator for developing social capital - tacit knowledge particularly has this role. The figure below illustrates how, as communities develop and people, purposes and policies are transformed into community, communal goals and norms, knowledge, empathy and trust contribute both to that transformation and to social capital development.



More research is needed to understand the relationships indicated in the figure. However, we know from practice and other research that community developers, managers and community leaders can contribute to the evolving community, and ultimately social capital development, by: understanding people's needs; representing the community's purpose clearly; putting minimalist policies in place that can be changed as norms develop; supporting knowledge creation, exchange and storage; supporting communication and socialization online; encouraging empathy by enabling participants to recognize each other and their similarities; supporting trust by ensuring that identity is revealed and past behavior is tracked.

To understand social capital development we need to learn more about tacit knowledge and how technology can support social interactions involving tacit knowledge.

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