

Building Social Capital in Virtual Learning Communities

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Abstract

Social capital is a significant value-added to learning in virtual learning environments. It is created when learners interact with each other in the community, by exchanging rich and thoughtful experiences among themselves through storytelling. Little research has focused on how this stock of capital is valued in virtual environments. The goal of this paper is to describe how social capital is created, singling out trust as basis for building social capital in virtual learning environments. The paper argues that storytelling can be a protocol for the exchange of experiences, which in turn can be avenue for the cultivation of trust. Trust is then an enabler of social capital. The paper is organized as follows. First the concept of virtual learning community is examined. This leads into the description of the essential elements of virtual learning community. Second, the paper describes how social capital is grounded on trust and this is presented through a process model. The rest of the paper will then discuss this model and the significance of social capital in virtual communities.

1. Introduction

The impact of new technologies on society and the sweeping corresponding influences on education and training systems, has led into the emergence of ubiquitous learning environments, distributed learning environments and virtual learning communities. More specifically, the technologies of the Internet and the World Wide Web have come to support an infrastructure that promotes interaction in distributed learning environments and formation of virtual communities. Key to the existence of these communities is communication and social interaction in cyberspace. The interaction through communication that computer technologies enable in virtual and distributed learning communities can stimulate knowledge sharing, leading to collaboration and creation of social capital, which is a vital stock of capital in knowledge communities. However, little is known about whether or not virtual communities add value to the learning process. Schwier (2001) suggests that one of the future research directions in virtual learning communities should investigate what value administrators, educators, and learners place on virtual learning communities.

Furthermore, virtual community literature shows little on whether social capital, a stock of capital that resides within relationships of individuals in physical communities, also exists in virtual learning communities. The goal of this paper is to examine the value of social capital, which is basically accrued from social interaction and knowledge exchange in virtual communities. Through a process model, the paper shows how storytelling facilitates the creation of social capital in these environments. But first, the concept of virtual learning community is examined. This leads into a description of the essential elements of virtual learning community. Second, the paper describes how social capital is grounded on trust through periodic social interaction within particular social contexts. This is presented in form of a model and then the rest of the paper will discuss this model and the significance of social capital in virtual communities.

2. Virtual Learning Communities

Etzioni (1993) defines community as a web of affect-laden relationships among a group of individuals. Relationships criss-cross and reinforce one another (as compared to one-on-one or chainlike individual relationships). This definition suggests that any community is committed to a set of shared values, norms, and meanings, through a shared history, and identity within a particular culture. In traditional society, communities are evoked by geographical closeness for instance; villages, neighbourhoods, and towns are natural occurrence of terrestrial communities. The foundation of community might even be organisational as in the case of churches, schools, and clubs (Rheingold, 1993, Smith & Kollock; 1997; Croon, Erik & Agren, 2000). By contrast a virtual community is a social network, a group of people who are trying to achieve something through the use of technology. These communities are emergent and are mainly determined by their interconnectivity by computer technologies and associated media. A virtual community can be any aggregation of individuals who are interested in making connections among themselves through new technologies to achieve certain goals.

Virtual communities are global in nature and their presence never requires shared physical and temporal space, but rather they are global in terms of time and space. These communities have been the features of the Internet since its inception. People of similar interests team up and they form groups virtually regardless of geographical locations and time constraint. These people often form communities to share ideas and goals (Schwier, 2001). In addition another aspect, which characterizes communities, is the nature of social interaction among members of the community (Nichani, 2000). It is the nature of social interactions that sustain these communities and in the case of virtual learning communities; it is the sharing of knowledge, which sustains their very existence. Communities contain individuals who form relationships, and who have sense of a group membership within the group.

While the generic definition of virtual communities as collections of individuals who are bound together by common interests, what actually constitutes a virtual learning community has been a subject of debate. Many researchers stress that in practice any virtual community has one or more elements of learning (McCalla, 2000; Schwier, 2001). Wenger (1998; 2001) made a distinction between communities of interests and communities of practice by pointing out that any group that shares interests online can be referred to as a community. However, this is different from community of interests as he argued: “a community of practice is a particular kind with members focusing on a domain of knowledge, and over time members accumulates expertise in this domain through exchange of knowledge and experiences”. They develop shared practice by interacting around problems, solutions, and insights, and building a common store of knowledge. Such a community draws members to engage in similar practices in similar language and interests, and to share experiences methods and techniques. Membership in these forms of communities is very cohesive and involves engagement in a collective process that creates a bond among the members. Wenger illustrate this by referring to work teams, who can share tacit knowledge.

Virtual learning communities emerge over time as members interact and negotiate (Schwier, 2001; Dugage, 2002) so they are products of social interaction. In some cases, rules of practice and engagement emerge, which binds people together into a social body. These rules might also change over time as members interact with each other. This suggests that communities have life cycles, they emerge and cannot be created, however, they can be destroyed.

2. Essential Elements of Virtual Learning Communities

A virtual community is a social entity formed out of social interaction in cyberspace. When people relate to each other through the use of technology, whether based on interests or certain goals, they tend to form a community. However, the literature on virtual community demonstrates no agreement on what constitutes a virtual learning community. The concept ranges from virtual community networks (Rheingold, 1993, Smith & Kollock; 1997; Croon, Erik & Agren, 2000) based on interests, virtual learning communities of relationships, place, ideas, reflection and ceremony (Schwier, 2001); to communities of practice in the corporate (Wenger, 1998, 2001).

Though there are various definitions of virtual community, they share common elements. For instance, every community has a unique language and culture (McCalla, 2000). Language is the communication infrastructure of a community. It is an avenue in which members negotiate meaning, understand each other and build common vocabulary around their interests and goals. In fact, a culture in virtual community does not equate with natural human culture, (but rather a repetitive way of doing things unique to a community). This can be the way in which a community recruits its new members, socialise with each other and solve problems of individuals or those that relate to the community in general.

Besides language and culture, every community maintains a hospitable environment for its members. Hospitality is an essential element of any virtual learning community. It encourages togetherness and promotes participation. Active participation of members in virtual communities accounts for community sustainability and continuity (Schwier, 2001). In addition, closely associated with membership is the sense of shared identity among individuals in virtual community. To some degree virtual community members identify themselves with the community's mission, values and norms. Identity can also emerge from sharing common history. As Schwier (2001) noted, "effective community share common history, culture and identity". Connected with the above elements of virtual communities, the existence and continuity of a virtual community depends heavily on social interaction, and social interaction is created around commitment, trust and values embedded within social relationships of the individuals.

In a virtual learning community, members share a common repertoire of resources: experiences, stories, methods and tools for solving problems. Members in these communities discuss new ideas; assist each other in keeping up with current information related to their practices for example. This also promotes shared identity among them because discussion is organized around subjects of interest that matter to members.

3. Knowledge Construction in Virtual Learning Communities

There are various forms of knowledge-generating activities in virtual learning communities. These range from interaction to solving problems together to exchanging experiences and sharing of gossips through storytelling and socialization. Such interactions are made possible by a wide range of technological tools, such as email, chat rooms, discussion boards, collaborative review of documents, application sharing, code sharing, and web tours tools.

The process of knowledge sharing and exchange in virtual learning communities requires collaboration. In virtual learning environments, learning activities are structured to promote knowledge negotiation among learners towards the creation of new body of knowledge.

Congruent with constructivist theory, learners in virtual learning communities are responsible for their own learning. This suggests that learners need to be stimulated to remain highly engaged in the learning process. In addition, in collaborative virtual learning environments learners actively search for information, engage in critical discussion, ask questions, discuss answers, make proposals and reply to other proposals (Veerman, 2000).

The knowledge negotiation process in these communities entails an exchange of experiences exchanged through storytelling. Storytelling can be effective techniques for conveying information in a compelling and memorable way. Neal (2002) noted that storytelling remains an important mode through which individuals and cultures communicate. When learners share experiences, their engagement can be high after all they share common problems and seek for common solutions to the problems. In virtual learning environments when people of similar experiences exchange stories they are likely to build a rapport and special bond that connects them together regardless of their adverse differences. In these learning environments, learners carry their expectations prior experiences and knowledge with them, and learn by relating stories they hear to their own experiences.

Indeed, stories are important cognitive events of a particular pedagogical value because they encapsulate in one rhetorical package, four of the crucial elements of human communication: information, knowledge, context, and emotion (Norman, 1993; Neal 2002).

Stories usually emerged from experiences. Narrating experiences through storytelling encourages the process of building trust. Trust begins when learners are able to identify with those with whom they share similar experiences, create their own learning and contribute their experiences to the group. Learning by relating experiences also allows learners to build a knowledge base by relating theory to practice. This argument is promoted in the case based learning, where learners read a case or listen to a story and apply problem-solving techniques to it. Case based learning applied in corporate work

setting promotes case based reasoning, but it is beyond the scope of this paper to go into further details on these approaches.

However it is worthwhile to note that in virtual learning environments, learners bring to the discussion prior knowledge, experiences and personal beliefs and values. This implies that related experiences have an impact on how learners contribute to the process of knowledge negotiation and construction. As Stahl (1999) noted, people become aware of the world through entering into a mysterious social interaction, and they bring their own experiences and observation into the activity i.e. learning starts on the basis of tacit pre-understanding. Learners will benefit greatly if they can learn from each other and draw on their rich distinct experiences. This means they need to value relationships and differences as value-added into the discussion.

4. Social Capital in Virtual Communities

Social capital refers to the stock of social trust, norms and networks that people can draw upon to solve common problems. While physical capital refers to physical objects, and human capital refers to properties of individuals such as knowledge, social capital implies connections among individuals and the value accrued from this connection. It consists of social networks and norms of reciprocity and the trust that arises from social interaction.

There are two levels for defining social capital. For instance, the definition of social capital provided by the World Bank emphasizes institutional connections on macro level. According to the World Bank, *social capital refers to the institutions, relationships, and norms that shape the quality and quantity of social interactions. In this view, social capital is not only the sum of the institutions, which underpins the society—it is the glue that holds them together* (The World Bank, 1999). On the micro-level, social capital is *a stock of active connections among people: the trust, mutual understanding, and shared values and behaviours that bind people, the members of human networks and communities and make co-operative action possible* (Cohen & Prusak 2001).

There are many social networks in which social capital resides. Few of these are networks of civic engagement, associations, clubs and co-operatives, neighbourhoods, and virtual communities. In fact, the notion of social capital suggests an abstract hidden resource, which can be accumulated, tapped, attained when people value relationships among each other, interact, collaborate, learn and share ideas. This is a value-laden stock of capital. Productive resources can reside not just in things but also in social relations among people (Coleman, 1988; Putnam, 1993). Resnick (2002) argues that social capital is a residual side effect of social interaction and the enabler of future interactions. In some traditional African societies, social capital is seen as a principle resourceful stock for community development. For instance, in those societies where farming is the main activity, farmers can exchange tools and labour. Labour exchange and the willingness to do so are based on reciprocal relationships of giving and taking. These practices foster sturdy norms of generalized reciprocity, by creating the expectations that a favour given now will be returned tomorrow. The implication is that past collaboration is the basis for future collaboration, and refusal to take or give increases one's chances of being

sanctioned or even removed from the society. Hence social capital is essential for both personal and community development in those societies.

Today in most virtual communities, for example, virtual help-centres, people are motivated to help each other not because of financial returns associated with such practices but a social desire to help, and by possible reciprocal expectations of social appreciation. Kim (2001) suggested that most people provide help in virtual communities in order to get personal satisfaction from contributing to the community and an “ego boost” from enhancing their reputations. They also view their participation as an effective way to raise their visibility within the community. There are a number of virtual learning communities that are dedicated to helping; for instance novice computer programmers get advice and help from veteran programmers who spend hours each day helping people whom they value as newcomers to programming. They do these not because they expect some financial gain, nor because they know their helpees. Rather they do it mainly for social reasons. Perhaps they deem novice programmers as potential programmers and newcomers who can greatly benefit from accumulated knowledge of veteran programmers. Such line of reasoning is directly related to situated cognition, in which newcomers are often socialized or initiated to the community’s norms and values and learning is approached as an apprenticeship. In this kind of learning the continuity and willingness to learn and to be guided or taught, is dependent on the relationship between the mentor and the mentee, the learner and the teacher or the new timer and the veteran.

These relationships encourage informal knowledge exchange, the creation of social networks, participation in on-line discussion, peer tutoring and computer-supported teamwork, collaborative learning processes, self-assessment and reflection, and peer assessment are all within these processes.

5. Building Social Capital on Trust

If social capital inculcates value to communities and has high returns to individuals and communities, what builds social capital? Trust is an enabler of social capital. It is a subjective degree of belief that nurtures understanding among members of a community. It promotes a sense of reliability and social security among its members (Abdul-Rahman, & Hailes, 2000). Earlier proponents of social capital, such as Fukuyama (1995) noted that there is a direct relationship between trust and social capital. Fukuyama distinguishes between high trust and lower trust societies. His main argument is that high trust societies tend to develop high social capital and subsequently they enjoy high economic development than low trust societies. This argument also suggests that high trust groups and cultures also accumulate greater social capital (Sirianni & Friedland, 1995).

The concept of trust is relevant to virtual communities. It acts as a binding factor that glues people to gether in virtual learning communities. It is based on relationships, and is often the core principle of virtual learning community. Trust is one of the essential lubricants to social activities, allowing people to work and live together without generating a constant flurry of conflict and negotiations (Cohen & Prusak 2001). People come to cultivate trust after realising that they share common stories or experiences.

Individuals in most virtual learning environments are characterized by high variation in training, language and culture. The diversity of these individuals is likely to affect they way they interact especially when they do not use the same language or use common vocabulary. However, through sharing of experiences or telling stories of common interests, individual identify with each other and build trust. In the long run, this trust can facilitate the development of social capital, which can be of value to the group and the individuals. Cohen & Prusak (2001) state that through relationships, communities, cooperation, and mutual commitment become the essential elements of social capital and these elements are built upon trust. Trust between individuals includes trust between strangers and trust of social institutions; ultimately trust becomes a shared set of values, virtues and expectations. It seems trust enables people to build communities, to commit themselves to each other and form a social fabric, which in turn is useful to both the community and the individual members of that community.

However, trust may take long time to cultivate. As Nichani (2001) puts it, there is no thing as instant trust. Trust takes time and space to develop. Trust grows as a result of exposure to one another, and sharing experiences, whether success or failures, shared experiences provide a critical avenue for building trust. Relationships built on trust cannot be hurried. They are not developed over night but rather grow exponentially through time, space and social interaction. The proceeding figure presents a gradual process in which social capital through social interaction builds trust based on two factors: time and space.

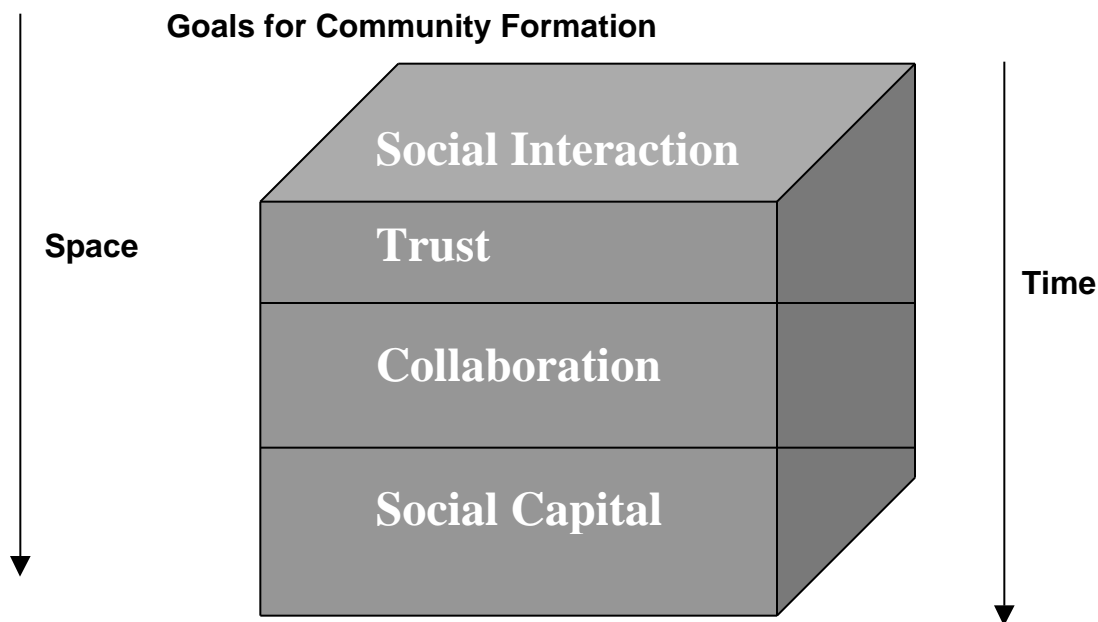


Figure 1. Virtual learning community/community of Practice

6. Discussion

There are varied connotations and overtones on the concept of virtual community. Much of the research has mainly dealt with the basic perspective, mainly trying to understand the purpose and nature of virtual communities. This has led into many definitions ranging from virtual communities, virtual learning communities and communities of practice. Even if there are many definitions of this concept, different definitions of virtual communities share many elements in common. For instance, any virtual community involves learning of some sort (Wilson & Ryder, 1998; McCalla, 2000; Schwier, 2001). The fact that virtual communities are formed out of individuals, who are interested in reaching common goals, implies that they can constantly learn from each others' experiences. Learning in any context at any time is also consistent with situated learning theory and sociocultural theory of learning (Clancey, 1997). Learning in a situated activity builds on the process of legitimate peripheral participation as described by (Wenger, 1998, Driscoll, 2000). In legitimate peripheral participation, learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires newcomers to move toward full participation in the sociocultural practices of a community. Legitimate peripheral participation provides a way to speak about the relation's between newcomers and veterans, and about activities, identities, artifacts, and communities of knowledge and practice (Lave and Wenger, 1991).

Learning takes place in a social and physical context (Vygotsky, 1978). *"A situated learning environment provides an authentic context that reflects the way the knowledge will be used in real-life(physical context) that preserves the full context of the situation without fragmentation and decomposition, that invites exploration and allows for the natural complexity of the real world"* (Brown, et al., 1989). Key components of the situated learning include stories, reflection, and articulation of learning skills, cognitive apprenticeship, collaboration, coaching, multiple practice and technology (McLellan, 1996).

This paper argues that all these theories apply to learning in virtual communities, because virtual communities do not only consist of merely individuals who gather in one place in a particular time. Virtual communities are social entities built around social interaction. It is the people not the space in which they interact that form the community. If virtual communities are more less the same as physical communities, then definitely they have implicit value. One of these values is social capital. Little is known about how social capital develops in virtual learning communities, and whether or not there is such thing as social capital in learning communities. This paper argues that social capital exist in virtual learning communities. It argues that social capital in these communities develops periodically and permeates the community through trust. Trust is the driving element to the development of social capital.

Central to the process of developing trust in virtual learning communities is relating experiences through storytelling. Learning through storytelling makes learners relate individual experiences to the shared task and participants build common ties, interests and history and common identity along their experiences and coexist together. They will also possibly come to understand individual differences. Collaboration develops, especially when diverse members discover that they share common experiences and can

confide on one another. Cohen & Prusak (2001) state that what ties community of practice is the aspect of social capital. People are willing to co-operate, share, help, and support with their views, opinions, feedback, and experience because they can trust each other and believe and a share common cause within a community of practice.

7. Conclusion

Community networks, virtual learning communities, communities of practice, all are conglomerations of individuals, who aggregate mainly to share common ideas, pursue common interests and goals in cyberspace. These individuals make use of information technologies to connect and relate to each other, because they need one another to reach their goals. These can be goals for building knowledge, goals for socialization, goals for learning, and goals for solving pressing problems that require more than one person to solve. Central to the functioning of these communities is mutual support built on mutual understanding, the need to reciprocate in order to sustain membership and friendships and avoidance of social sanctions.

There are also requirements based on various needs, for instance, the need to:

- Work together and build a unique identity of individuals and organizations.
- Form a strong political body that for some political or legal reasons cannot operate in physical locations, that is the need to protest against the status quo, the need to maintain the status quo.
- Collaborate with one another today in order to obtain aid from others tomorrow.
- Be heard and be visible from invisible physical scene.
- Work together to produce better products and services in order to compete in the turbulent business markets.
- Advertise and sell products and services and expand market shares.
- Improve collaboration and knowledge distribution among employees and learners.
- Strengthen relationships with customers and trade partners.
- Solve problems in just-in-time fashion when individuals are geographically distributed and reduce the cost of transportation.
- Seek for affection and love that is denied in physical environments.
- Collaborate and exchange research findings between academic, corporate and government researchers working in the same research areas and the need to avoid duplication of research projects geared towards solving the same problem.
- Learn from each other's experiences to enable group and personal growth.
- Even the simple need to exchange gossips and popular "cheap talks" for mere psychic satisfaction.
- The various needs of needless to be not to be, are essentially the reasons to form connections in cyberspace.

The above needs are prominent factors that trigger individuals to form networks and communities, both physical and virtual. This indicates that there is some value accrued

from being a member of a virtual community. This value is derived from social interaction and can be measured in terms of social capital. But social capital is a residue of social interaction in virtual learning communities. The process involve in its creation requires trust as a main element. This element can be built through time and space and it cannot be cultivated quickly. But it is a process of social relations best attained through exposure to experiences that can be narrated by individuals who can share and learn from these experiences.

Future research will look into the development of measurable parameters that constitute social capital in virtual learning environments.

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