3 TRUST BUILDING IN COLLABORATIVE NETWORKED ORGANIZATIONS SUPPORTED BY COMMUNITIES OF PRACTICE

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In view of the competitive scenario in which organizations are currently inserted, it is necessary for them to adopt a philosophy of continuous learning, aiming at improving their products and processes, besides encouraging an environment that allows knowledge exchange and innovation. On the one hand CNOs aim at increasing competitiveness through the flow of knowledge aggregated to products and processes in a formal environment. On the other hand, CoPs rise up as a mechanism that permeates new structures of communication, encouraging institutional learning and knowledge sharing, combining common values to their members in informal environments. The aim of this article is to propose the use of CoPs within CNOs to promote trust among members, aiding and encouraging the practices of knowledge sharing.

1 INTRODUCTION

Currently Small and Medium-sized Enterprises (SMEs) have been counting on an always increasing source of technological resources, aiming at the optimization of processes, better business prospecting, ameliorating the information flow and improving organizational processes in general. However, SMEs working only by themselves do not have productive capacity to compete with large companies as far as cost reduction, time to market, better quality products, and services are concerned.

Collaborative work in the form of a network among organizations allows for interactivity, increased capacity and control in order to select the desired profiles and contents. Because of their always increasing importance in society those networks can find, in technological resources, a powerful ally in the search for better performance, increased information flow and better means of gathering people and

groups with common interests, reaching beyond physical limitations. However, one must not consider only the technological aspect. Despite the fact that networks allow access and distribution of information as well as the promotion and socialization of knowledge by bringing together and confronting ideas, it is important consider that in order to create a suitable context for knowledge sharing it is not enough to provide means of contacting actors, by real or virtual channels. It is essential to create conditions for a confrontation of experiences (Jonassen, 1996).

For this contact to occur, it is fundamental that the entities involved, regardless of being people or organizations, trust each other. Trust is an element fostered by common interests, worries or concerns that appears in a group of a single area of knowledge that wishes to share experiences for the solution of problems, as well as the exchange of ideas and practices aiming at preserving and improving its capabilities and competences. In this sense, Communities of Practice (CoPs) may contribute with the construction of trust among members of the group.

Stewart (1997) emphasizes the fact that CoPs have special characteristics and defines them as groups that learn and emerge from their own initiative – people who, due to professional and social demands, cooperate directly with each other and learn from each other. Terra (2001) claims that "part of what we 'know' comes from our acceptance of the knowledge validated by other communities and that 'Communities of Practice' is a term that refers to the ways through which people work in groups and/or are naturally drawn to each other". The members of a CoP become responsible for disseminating knowledge and mapping it out, creating a network of interactions that allows for the construction of trust. It fits with the general idea of CNOs.

This paper brings a comparison between CNOs and CoPs in order to highlight their overlaps and differences. It is argued that CoPs can be used as a supporting mechanism in the process of trust building among CNOs' members. The research question is "can CoPs promote the trust building among members taking part in a CNO environment?". It is structured in the following way: in section 2 it is presented a characterization of trust in CNOs environment; in section 3 a brief overview about the concepts of CoPs is presented; in section 4 it is depicted the overlaps and differences between CNOs and CoPs; section 5 presents how the authors see CoPs as a instrument for trust building in CNOs, finally in section 6 the conclusions are presented.

2 CHARACTERIZATION OF TRUST BUILDING IN CNOS

The need to be competitive and the characteristics of open markets are forcing organizations to concentrate on their core business. One option to SMEs is to merge their core competences through alliances and to use the available resources of other enterprises to execute the tasks that are not covered by one single enterprise, when required (Karvonen et al., 2004).

One way of joint work among organizations, even among competitors, is by means of collaborative networks. According to Camarinha-Matos, (2006) a Collaborative Networked Organization (CNO) is built by a range of entities that can be individuals or organizations, usually autonomous, geographically distributed, and heterogeneous when considering their environments and their culture. The CNO's main characteristic is that its operations are supported by computer networks. However, the high costs involved and the lack of knowledge in a wide range scope

could make such resource unfeasible (Camarinha-Matos, 2006). The main rationale behind a CNO is that it covers three core areas that are related among themselves: i) Virtual organization Breeding Environment (VBE); ii) Virtual Organization (VO); and iii) Professional Virtual Community (PVC).

These three areas shall provide the basis for competitiveness, world excellence, and agility for the organizations involved, through business identification and exploitation, promoting innovation and increasing their participants' knowledge. Despite the importance of these topics, this paper is mainly focused in the fields of VBEs and VOs. PVCs will be better explored in the next opportunity.

The paradigm behind the CNO discipline changes the way in which the commercial, industrial, and cultural activities are organized (Soares et al., 2003). According to Vallejos (2006), among many factors such as technological support, via an Information and Communication Technology Infrastructure (ICT-I), rules, and procedures when working collaboratively **trust** is a key factor. That means that a VBE, being a long-term network, presents the adequate environment for the establishment of cooperation agreements, common infrastructures, common ontologies and especially, the development of trust between its members, which is the necessary precondition for creating successful VOs. In their work, Vallejos (2006) describe a case where trust was built among the CNO's partners via simultaneous travels to events that were thematically relevant to all members. It allowed the creation of a feeling of belonging to the group.

Laaksonen (2006) measured, from a different perspective, mutual and inter-organizational trust in a particular case – the Finnish paper industry. They classified suppliers by the type of the relationship into different categories and explored the development of such relationships. They presented one model for building trust where the central elements were trust and mutual dependency. According to those authors these elements were also potential key factors within a successful partnership relationship.

Another point of view can be found in the research done by Urze (2006). This approach is related to economic sociology and sociology of organizations. It relies on the case study of an industrial network, developed in the north of Portugal, where patterns of relationships were identified among the organizations as well as how, and to what extend, trust interferes in business relationships. The author concludes that the meaning of trust in business refers precisely to the issues of price, quality, and delivery time. It means that a supplier is trustful when s/he is able to prove that s/he knows how to deal with those factors accordingly. Urze (2006) also points out that trust relationship among enterprises in a network is favored by long lasting links where there are several opportunities to test that trust. However Sako (1992) emphasizes that the trust that was slowly and carefully built can be quickly destroyed if something unexpected happens.

Msanjila (2006) go deeper in the study of trust among organizations arguing that in small-sized CNOs, members know each other and are able to built trust. However in large-size VBEs new approaches and mechanisms are required to be designed for measuring/assessing the trustworthiness level of organizations. Msanjila (2006) also approach the technical aspect of the matter, such as confidentiality, integrity, authentication, access control and non-repudiation, as well as the human side of trust and the important factors in trust building.

In the current paper the authors argue that the process of trust building in CNOs can be stimulated by CoPs. The next section is dedicated to study the concepts of CoPs.

3 GENERAL CONCEPTS ABOUT COPS

Knowledge has been increasingly seen as a vital resource for the survival of organizations. It adds value to products, services and processes, taking an active role in the deal, and when attached to a business, confers more competitiveness to organizations, through the adoption of different practices and organizational functions. Thus, many organizations are realizing that knowledge needs to be managed, in the sense of establishing politics to promote collaborative practices to enhance that knowledge. Raja et al (2006) observe that organizations have been viewing their employees' knowledge as their most valuable trump. However few of them are currently managing their knowledge in a wider context. Communities of practice (CoPs) can help organizations fill in that blank, through knowledge sharing and the creation, in conjunction with ICT-Is, of virtual learning environments. It is understood that CoPs can be used to integrate specialists, even from different functional areas in a company, who dedicate to a matter of specific interest.

Brown (1991) claim that CoPs represent self-organized groups composed by coworkers who possess complementary knowledge and who communicate with each other to share the same practices, interests and professional goals. Following that line of thought, Coakes (2006) add that such groups can be local or geographically dispersed, they are motivated by common interests and are willing to develop and share tacit and explicit knowledge.

Therefore, CoPs allow organizations to share knowledge and help them become more competitive by increasing their performance (Smith, 2003). According to those authors, people engaged in CoPs share experiences and knowledge in order to promote innovation. CoPs can be understood as resources to improve organizational performance, as they allow members to share their professional experiences and thus, better understand their work (Scarbrough, 2002).

CoPs can be either formal or informal, and are based on learning practices through social participation (Wenger, 2006). Each member participates actively and constructs identities of relationship in the community. For Wenger (2006), CoPs present three different dimensions from other types of communities: joint enterprise, members' mutual commitment, and resources sharing, in other words, members work with the same tools, techniques and technologies and create a common language. An important characteristic is that relations of interactivity among members do not have to be necessarily personal, as the advance of the technologies of ICT-Is allows members to relate to each other and participate by virtual means (Wenger, 2006).

Another characteristic is that shared knowledge is ruled by norms of reciprocity and by the trust among community members (Scarbrough 2002). Because they are based on trust, CoPs are difficult to build, but easy to destroy. One of the success factors for communities of practice is voluntary association (Coakes, 2006). The need to take part in the community must come from individuals, i.e., s/he must feel like sharing knowledge and learning something new.

The process of communication is facilitated by the use of specialized forms of language and/or specific conversation idioms to keep the information flowing

among members. Therefore, Scarbrough (2002) observe that some basic expressions and matters are previously known and technical jargons are widely used.

The way a certain theme or matter is dealt with somehow helps to establish the members' identities. Wolf (2006), however, point out that glossaries, taxonomies and ontologies provide support for the understanding of the essencial contents. Davenport (1998) also highlight the important role played by a common language among participants, as its absence would entail misunderstandings and mistrust among members.

4 OVERLAPS AND DIFFERENCES BETWEEN CNOS AND COPS

As already mentioned, trust is intimately related to the success or failure of CNOs and CoPs, as it is the element that supports collaboration and the exchange of information and knowledge. However, it is important to consider the differences and overlaps between those two areas in order to have integration and sustainability. These aspects are dealt with in this section.

4.1 Overlaps

CNOs, when they appear as Virtual Organizations, as well as CoPs, may emerge in temporary arrangements and have at least one coordinator. Both CNOs and CoPs may work in different domains. The basic assumption for their operation is the wish to cooperate and collaborate. When their goals are achieved they are dissolved. It means that they have a well-defined life-cycle.

CNOs and CoPs can be geographically dispersed, they follow a clear and well-defined set of rules for their efficient operation and, finally, their members can participate simultaneously in more then one CNO or CoP.

4.2 Differences

While one of the prerequisites for the efficient operation of a CNO is based on an ICT-I architecture and on a formal organizational structure, CoPs may exist without a formal structure and without any computational support, although, interaction is facilitated when such support is provided. Whereas CNOs are multidisciplinary and demand some level of preparedness from their participants, CoPs are focused on a specific segment and require prior basic knowledge of the subject.

CNOs are adaptable according to a market niche and are focused on the high quality of the products, as well as on client satisfaction. CoPs are directed to their members' specific interests and, as that, are adaptable to their needs, focused on knowledge sharing and on trust building. Table 1 summarizes the overlaps and differences between CNOs and CoPs.

Table 1 – Characteristics of CNOs and CoPs. Source: the authors.

Collaborative Networked Organizations	**Communities of Practice**
Work with strong computational support	May use some computational infrastructure for support
Settled on temporary arrangements	Settled on temporary arrangements
Emerge in many forms and in different domains	Emerge in many forms and in different domains
Multidisciplinary	Focused on one specific issue
Some level of preparedness is necessary	Knowledge in the area is required
*Try to build **trust** among the actors participating in a certain collaboration opportunity*	*Provide **trust** building among their members*
Adaptable according to the market's needs	Adaptable according to the group's needs.
Focused on high quality products and client satisfaction	Focused on knowledge sharing and trust building
There is at least one coordinator	There are moderators
Once their objective is achieved they will no longer exist	Once their objective is achieved they will no longer exist
May be geographically dispersed	May be geographically dispersed
Are formally settled	Are usually informally settled
There is a clear set of rules to follow	There is a clear set of rules to follow
Members may participate in several CNOs	Members may participate in several CoPs

5 COPS FOR TRUST BUILDING IN CNOS

Of all the overlapping and divergent traits presented, the key factor that gives CNOs and CoPs impulse and that is their very basic purpose is **trust**. According to Lewis (1985) and Jones (1998), trust can be built through cognitive and affective elements. Cognitive elements are linked to reason, i.e.: the network members' sense of responsibility and specific competencies. It is important to highlight the transparency of competencies and the aims for each network member producing, through systematic thought, a philosophy that every single member is important and able to benefit the group as a whole. Wolf (2006) believe that CoPs can foster the development of a horizontal communication hierarchy, encouraging flow of knowledge in a wide social context, aiming at the collective participation of their members. It may also contribute for CNOs knowledge sharing.

The promotion of social relationships is vital to the affective elements responsible for building trust. The first step towards that direction is to promote events, or personal meetings among the members, aiming at encouraging a collective spirit of interactivity and participation.

CoPs may help to develop trust building among members of CNOs either cognitively or affectively. The former occurs because the members of the CNOs

have common interests by sharing skills, competences and resources. The latter, by improving the flow of knowledge, as well as it is based on levels of interpersonal relationships (virtual or not). For Kimble et al (2000), trust and identity are built through personal communication, so that CoPs may encourage the interaction among CNO actors either local or distributed way.

According to Raja et al (2006), trust is more easily developed in local environments, where network members share the physical space. That is because contact in daily relationships and personal communications allows for better identification and perception as far as affective elements are concerned. Smith (2003), concurring to that idea, claim that trust must be developed mainly through personal contact. Raja et al (2006) also call attention to the fact that also in a virtual context, where members are geographically dispersed, it is possible to foster trust among network members.

The existence of mechanisms, communication channels, and rules that support the practices of interactivity in CNOs may have a strong basis on the relationship of their members. This relationship shall be cultivated by CoPs. The initiatives for the participation and volunteer contribution from members shall promoted by group leaders inside the CoPs.

6 CONCLUSIONS AND NEXT STEPS

CoPs can improve trust building among CNOs as they allow for homogeneity ("horizontality") among members. It occurs because, according to Turner (1999), CoPs facilitate the information flow horizontally, effectively collaborating to the network of relations. Wenger (2006) complements that idea when claiming that CoPs are not limited by formal structures; they create connections among their members, sorting out the organization's hierarchical structure and promoting autonomy and informality.

Another interesting aspect is that in informal environments (typical of CoPs), affective elements are more easily introduced than cognitive elements. In CNOs one can notice high cognitive values and a smaller rate of affective values. Thus the importance of establishing contact among members, as mentioned above.

CoPs may contribute to CNOs when they enhance the use of collaborative networks in favor of affective elements to make the experience exchange in the network less formal, thus improving the trust building process in its two tiers: through affective and cognitive elements. Therefore one can understand that CoPs can encourage better relations among CNO members and consequently promote interpersonal trust.

As it happens within CNOs, trust is a prerequisite for the development of a CoP and for the knowledge flow among the organization members (Davenport, 1998). The challenge for managers is to find the means to actually develop values to promote trust in practice, aiming at collective participation in knowledge sharing.

At last, one must highlight the existence of a continuous cycle, where the higher the trust level, the higher the participation, engagement and commitment of each networked member. In this sense the interactivity and the collaborative feeling. One can perceive, at that stage, the presence of autonomy, as members watch for each other and solve their own problems. The network becomes, thus, an organic cell, with the capacity for self-organization.

6.1 Acknowledgments

This work has been partially supported by the Brazilian councils of research and scientific development – CNPq (www.cnpq.br) and CAPES (www.capes.gov.br). It has been developed in the scope of the Brazilian IFM project (www.ifm.org.br).

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