

UNDERSTANDING COLLABORATIVE LEARNING: WELCOME TO THE THEME PARK!

Harri Happonen, PhD
Manager, Control Solutions RTD
Metso Automation, Lentokentänkatu 11, PO Box 237, 33101 TAMPERE, Finland
Tel: (358) 20 483 8860
harri.happonen@metso.com

Mari Oksanen, B.Sc.
Helsinki School of Economics, Department of Management Science,
Runeberginkatu 22-24, 01210 HELSINKI, Finland
Tel: (358) 50 5606 007
mari.oksanen@ky.hkkk.fi

Vesa Taatila, M.Ph.
Senior Vice President, Human Resource Development
Metso Corporation, Fabianinkatu 9 A, PO Box 1220, 00101 HELSINKI
Tel: (358) 20 484 3154
vesa.taatila@metso.com

ABSTRACT

A large number of executives and managers around the world acknowledge that in order to spark up their businesses, seek new product innovations and keep their existing customers it is important to both utilise existing knowledge and facilitate new learning. Considerable effort is made in the field of Customer Relationship Management (CRM), for example, in order to develop tools to acquire, analyse, store and disseminate knowledge on customers' needs, strategies, and decision making structures. Furthermore, the perceived business value added through networking, collaboration and partnership give tempting prospects.

Nevertheless, the empirical evidence linking individual and organisational learning as well as various forms of co-operation to business success can by no means be considered as a straightforward issue. Economic, social and other forces beyond one's control, for example, shape the intended structures and processes.

In the present paper, it is maintained that to be able to promote sustainable collaborative activities it is necessary to understand the underlying social grounding. The present authors set out to provide both theoretical viewpoints to the collaborative learning and address practical issues in the context of business activities. Social processes underlying the collaborative learning and the role of communities of practice, in particular, are discussed in detail. Furthermore, several examples of real business cases are presented.

1. COLLABORATIVE LEARNING AS SOCIAL ACTIVITY

To be able to promote sustainable collaborative activities and learning in particular, it is necessary to understand the underlying social grounding. The concept of community of practice provides several significant insights into learning as social activity. This concept is discussed in the next section.

1.1 Community of practice

The general concept of community of practice is well known and it has been discussed frequently in the literature. Also, several practical applications have been proposed. As a result, there are several ways to define a community of practice (cf. Happonen 2002).

According to the theoretical background, a community of practice is understood here as a site of a learning process. Such a site may set relations among persons according to repetitive conventions of social action including, for example, use of tools and language. This action, that is, practice takes place within a specific institutional context. Practice creates social bonds between the practitioners and is formed by mutual units of activities (cf. Schön 1987). In the present authors' view the underlying anthropologic reference to apprenticeship is an important factor (e.g. Lave & Wenger 1993). In particular, a focal issue in the concept of community of practice is the viewpoint that learning is not a single isolated activity, but rather an aspect of all social activity.

The underlying institutional context of a community of practice may be a business organisation. In such an organisation there typically exist numerous communities simultaneously because various social activities underlie the scope of business operations. These overlapping and tangential communities form a complex network of activities, only some of which are tightly related to the focal business operations.

In practice, several business organisations are typically in relation to each other. Inter-organisational activities create a particular context for participation. From practitioner's viewpoint, this context includes not only familiar goals and activity but also provides an element of unfamiliarity; the level of expertise and participation is not only in relation to the "home" communities. Instead, the inter-organisational context creates an overlapping social system. Within a complex system of interrelated businesses, there exist several interrelated, overlapping and tangential communities of practice.

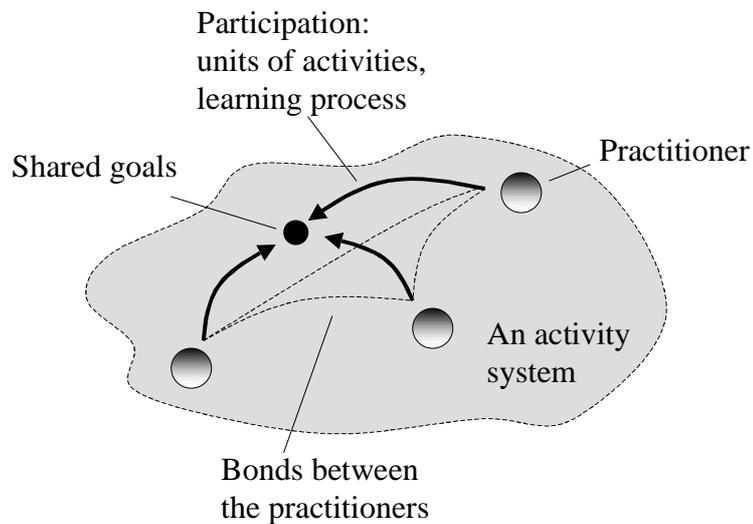


Figure 1. A simplified illustration of a community of practice (applied from Happonen(2002)).

1.2 Themes and contributions

Individual learning as an aspect of all social activity and transition from inarticulate to articulate knowledge, in particular, takes place by accepting meanings. In this process, both verbal communication and non-verbal meaning creation takes place. In the present paper, communication process is approached in relation to contextual thematic entities, themes. Such themes guide and co-ordinate communicative action within a context. This action is approached here as contribution to the communication process assigned to the particular themes that create a communicative nexus (cf. Luhmann 1995),

As a result, another view can be taken to the concept of community of practice. Social activity includes the aspect of meaning creation. Participation in a community of practice, therefore, can be approached by means of contributions to the social meaning creation. Shared goals and graded development of a practitioner towards expertise within the community can be understood via themes that guide and co-ordinate the contributions. As a result, participation that binds the activities together with the social and institutional contexts, is strongly affected by the mutually appropriated themes.

Figure 2 presents a simplified illustration of the re-defined community of practice. This viewpoint is based on a theoretical framework developed by Happonen (2001). The framework applies Luhmann's (1995) description of communication process and Tuomi's (1999) approach to social knowledge processes. The conceptual transition from expertise or full participation as the "direction" of the learning within a community towards shared goals or themes is highly relevant to the framework (cf. Lave & Wenger 1993, Tuomi 1999). It facilitates practical approaches by connecting social activity with the "goals", results of the

mutual participation. This enables, for example, a description of a distributed product development process by utilising the concept of community of practice (Happonen 2001, Happonen & Höyssä 2001). Also, this approach provides a different aspect to the value of collaborative learning. Chapter 2 discusses this in more detail.

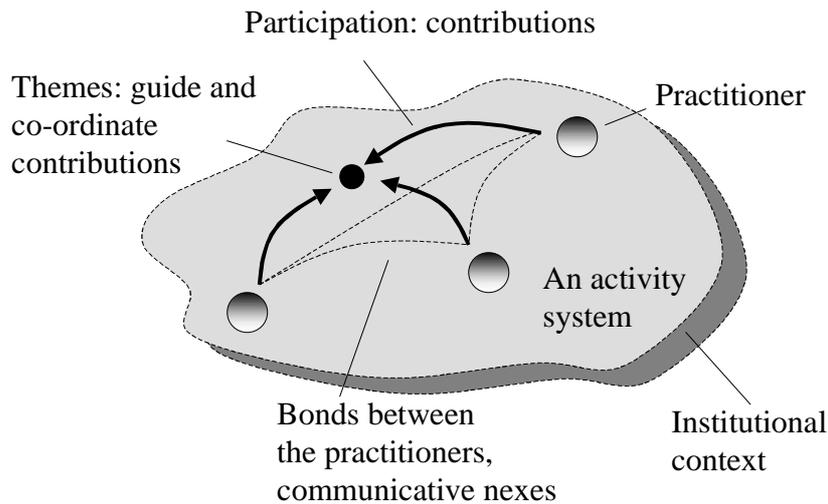


Figure 2. A Community of practice as an activity system whereby themes guide and co-ordinate action (applied from Happonen(2001)).

1.2 Dynamics of learning process

As discussed above, a community of practice is a site of a continuous learning process. Learning is continuous construction of meanings that is effected by both individual's existing meanings and the surrounding social phenomena. Knowledge, therefore, may be considered to be "justified true belief" as defined in Plato's dialogue, but in practice this justification is a dynamic continuous process. From individual viewpoint, knowledge is in relation to a highly complex evolving meaning structure, a system of meanings. Continuous meaning creation changes this structure with numerous dynamic interdependencies both within the individual system and with the social environment. As a result, socially justified knowledge can be considered to be in relation to those relatively stable meaning structures that underlie and constrain our activity (cf. Polanyi 1966, Tuomi 1999).

The role of communities in organisational dynamics is discussed in detail in Happonen (2002). According to Happonen, understanding of social dynamics of communities is a fundamental requirement in order to be able to include the concept of community of practice in organisational design or business management. Unsurprisingly, the same holds true for applying to concept of communities to collaborative learning.

Dynamics of a community is not only related to learning new things. At some point of its existence a community of practice will also face the challenge of forgetting. Some of this is positive and some is negative. Positive forgetting takes place when the community is able to "de-learn" something that is no longer valid or meaningful. If the community is unable to forget these items, they may become the "core rigidities" of the community, as happened in the whole organisation of IBM in the '80s (Kirjavainen & Laakso-Manninen 2000). The negative forgetting takes place continuously. Argote (1999) points out that people change, records can be misplaced and technologies may become obsolete.

The collaborative learning never takes place in vacuum (e.g. Stähle 1998). Some of the learning environments are more favourable for knowledge creation than others (e.g. Ba-theory Nonaka & Konno (1998), Nonaka & Takeuchi 1995, Nonaka et al. 2001). By learning environment it is not only referred to the physical surroundings, but also to the virtual and mental environment that the practitioners within the community can not manage alone, without the effect of some external forces.

As a conclusion, the present paper approaches the community of practice as a site of a learning process. It is, therefore, an organic part of this process itself. Practitioners join the community as newcomers and gradually, through participation learn not only the focal practises. Instead, they also learn to understand various activities of the community and their relations, what are the relations between the other practitioners and how do they relate to the world outside and, perhaps the most importantly, how to learn within this particular community. During this learning process, the practitioners and the environment shape the community and the practices. The role of such graded membership is focal from the viewpoint of the framework presented in the next chapter.

2. COLLABORATIVE LEARNING AS BUSINESS ACTIVITY

In the present paper, a framework for collaborative learning is proposed based on theoretical premises in the literature, authors' conceptual analysis (cf. also Happonen 2001, 2002) and empirical findings within the various business cases in Metso Corporation (cf. Oksanen 2003, Happonen & Höyssä 2001). All the empirical citations presented in this chapter are based on the interviews by Oksanen (2003). First, the background of the framework is discussed.

2.1 Background

In the literature, various tools and methods have been proposed in order to acquire, analyse, store and share knowledge within a certain business context. The focus of such approaches is on efficient codification, distribution and reuse of knowledge within a certain contextual field. Development of collaborative business processes, for example, is largely focused on new investments in Information and Communication Technology (ICT). New, open standards for business process automation are likely to enable new collaborative ways of doing business and bring significant benefits compared to the status quo of the technology architecture of electronic business applications (e.g. Trommer 2002).

In essence, the focus on ICT benefits mainly existing, well-defined business activities that either gives little requirements to the level of mutual trust between the collaborators or are straightforward enough to make this an irrelevant issue. A good example of the latter case is

electronic invoicing; at the social level, such a scope of activity does not require complex meaning creation or re-negotiation. Therefore, the issue of trust can largely be addressed by technological means.

However, the focus above leaves out the aspect of learning something new, outside the established scope of collaborative activities. It does not give any methodological or ICT support to the creation of radically new business innovations, neither does it give any assistance to building up and developing the human relations between the collaborators – which can form the decisive difference between the success and loss (cf. Powell and Dent-Micallef 1997).

In the literature, numerous customer relationship development models are presented (cf. Peppers et al. 1999, Dawson 2000, Nykamp 2001, Tiwana 2001, Storbacka 2001). Typically, such models analyse customer relationships in terms of the business value added, customer loyalty and trust development. The concept of learning, however, is not systematically taken into account or it is not considered to be one of the focal shared processes.

The present paper sets out to provide a novel framework focusing on business integration via collaborative learning process. The origin of this framework is in such business areas where the activities between the collaborators include complex technological issues, require diverse expertise and often involve high financial risks. Such collaboration typically provides high potential for financial benefits and takes place within long a relationship between the collaborators. Happonen (2002) proposes that optimally, the organisations involved in such collaboration should not define this relationship based on traditional categorising such as competitors or partners. Instead, each form of co-operation should be evaluated based on business benefits that can be achieved through mutual learning and development of the interrelated communities.

A good practical example of a business type that benefits from collaborative learning is customer service business in the field of paper and pulp process industry (e.g. Williamson 2001). Each customer has a particular type of combination of machinery, automation solutions, product range, working methods and personnel. From the supplier viewpoint, the business is a combination of expertise and numerous products and product components that are offered to various customers over their whole life cycle (cf. Vaattovaara 1999).

2.2 Framework for collaborative learning

The proposed framework for collaborative learning process includes five steps in the path to business integration. These steps or phases are an abstraction of the reality. In practice, these steps incorporate numerous combinations of parallel social activities. Furthermore, the steps can be parallel, they can occur in varying order or a single step may seem to be missing in entirety. The reason is that each community of practice forms a unique social grouping. Each individual participant behaves, learns and teaches differently. As a result, this conceptual framework should not be regarded as a fixed model for addressing all possible issues in this area.

The theoretical premises as well as empirical experience allow us to define such a framework that encapsulates several major elements of the collaborative learning process and provides an insight to the process itself. The proposed framework describes how collaborators in a certain

business context join the mutual learning process and through participation, learn to understand the activities of the interrelated communities, relations between the collaborators and their contextual surrounding. They move towards full participation in the sociocultural practices (cf. Lave & Wenger 1993). If the collaborators gradually learn to learn within this social context they also start to shape the interrelated communities and the practices.

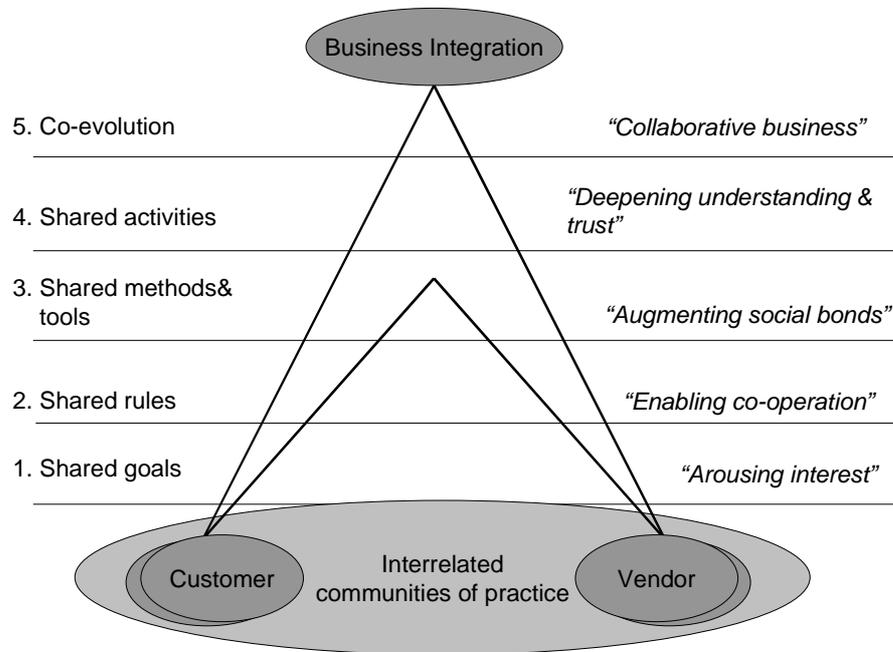


Figure 3. The steps of collaborative learning.

Step 1

The steps of collaborative learning presented in this paper begin from finding the common goals between the collaborators. This is important in creating an understanding whether there really is a ground to build interrelated communities of practice. The first step may differ from other collaborative approaches presented in the literature. Typically, common goals are assumed to be something that is defined during the collaboration. However, because the proposed framework describes the actual collaborative learning process, the common goals are essential to facilitate the activities. Such goals are the mutually appropriated connecting themes guiding and co-ordinating the participation to the communities of practice. They are at the heart of the graded collaborative learning process. If there can not be found common themes relevant to all collaborators, it is much more difficult, and often unsuccessful, to facilitate the process of building the interrelated communities.

Step 2

The second step takes place as the practitioners begin to work together. This phase of the collaborative learning process is very critical. At the beginning, the practitioners may all be newcomers from this particular collaboration viewpoint. The mutually appropriated themes

are set in contrast with existing individual meaning structures and familiar social environment. Construction and re-organising the individual meaning structure, that is, learning is guided not only by the mutually appropriated themes. Instead, this process has numerous interdependencies with the entire social environment as well as the individual history. The collaborators have all adopted certain ways of learning that are now accommodated to this particular context. When they search and build the shared understanding of the activities they simultaneously learn to understand social processes of the communities and relations between the collaborators.

From the business viewpoint, the collaborators require common procedures and rules of several practical issues like approving the results of joint projects and setting up the meetings. The practitioners will also need clear roles and responsibilities within the community in order to decrease the amount of work. All these practical requirements can be utilised in order to strengthen the mutual themes and build shared understanding of what the collaborators are doing and what is the significance of this for both themselves and the interrelated communities. In practice, a particularly important tool to facilitate this learning is to agree on the access to information and knowledge – continuous building of trust requires a strong emphasis to be put on the transparency of the activities.

Step 3

If the practitioners are able to find and realise a common framework for the collaboration, they have actually started the collaborative learning process. They have learned about various activities of the interrelated communities of practice, how these activities relate to the focal practices of their own familiar communities and how this all relates to the new context. In essence, the collaborators have started to learn how to learn within the collaboration and they have started to shape this new, shared site for the learning.

During this learning process transition from inarticulate tacit knowledge to articulate knowledge has taken place. For example, it is typical to agree rules and principles and create written documents in regard to the collaborative activities. However, this process is not a straightforward transition from one form of knowledge to another, as it is often described (cf. Happonen 2001). Instead, it involves complex evolution of the individual meaning structures during the various social activities. In particular, it is effected by existing articulations of knowledge, whether they are material artifacts such as tools or communication (cf. Tuomi 1999).

From the business viewpoint, the practitioners not only map the common tools and possibilities, but begin to use them productively (cf. Prahalad & Ramaswamy 2002). In order to encourage this development a common method or tool should be taken into use whenever possible. Tools are bound with the practices within the interrelated communities and only shared tools enable the development of common conventions of action. Therefore, it is often advisable not only to utilise existing common tools but also to actively seek new potential for common tools and working methods. In practise, it is also important to understand the relations between interrelated communities of practice and the legal organisations involved (cf. Happonen 2002). All relevant organisational levels and responsibilities, for example, should be taken into account when searching the common tools and methods.

The use of common tools sets high standards for the information security issues. This issue is widely discussed in the literature (e.g. Swifh 2001, Nykamp 2001, Marchand 2000).

Step 4

At this point, the collaborative learning process is an accepted part of routine activities. The communities have common themes and individuals make contributions to the common or interrelated goals. The practitioners frequently share mutual units of social activities and often participate into several communities of practice. Relationships between individual practitioners have deepened and typically, increasing amount of social activities take place outside the focal business operations.

"For example, a customer called me on one Saturday from the plant and told there is a problem. This is a good sign and metric for trust. Both parties feel free to contact each other immediately when a problem occurs." Mill CR Manager, CRM, Metso Paper (Oksanen 2003)

In practice, the high level of shared understanding of the activities and their meaning to the collaborators is likely to manifest itself in a form of a new type of business relationship. Collaborators may, for example, build a common sales channel. The key factor is that there begin to rise continuous, mutual activities at different levels of existing business organisations and these activities does not create only an additional sphere of activities. Instead, they start to shape the interrelated communities and the practices and also the institutional context, namely the legal business organisations. Latest at this level the social bonding and trust may begin to become stronger within the interrelated communities than in the parent organisations.

"The customer also learns when we share our knowledge and expertise, which then leads to a win-win situation where we succeed together with the customer. We understand each other's businesses and market situation. The point is that there is no shortcut to this situation. It all comes down to acting and working together." Senior Vice President, Sales, Process Automation Systems, Metso Automation Inc. (Oksanen 2003)

Step 5

When the collaborators share common conventions of action, mutual units of repetitive social activities, common targets and mutual understanding of the meaning of the activities, they are not only bound by legal business arrangements but also by social processes. At this stage, learning takes a form of co-evolution. Collaboration has meaning for each individual practitioner and they have learned to understand the activities of the interrelated communities and relations between the practitioners. Moreover, they have also learned the meaning of the particular contextual surrounding. This social context has benefits and weaknesses that are different for various individuals. The collaboration and it's possibilities and potential has a relatively stable meaning for each collaborator.

"We try to find out the best solution for the customer even though it is not always the best solution for us in a business sense. This is crucial in a long-term co-operation." Product Manager, PDS, Metso Paper (Oksanen 2003)

Although each practitioner shapes the interrelated communities and the practices, the collaboration has evolved into a state where different relations are valid between the relative status of the practitioners than in the beginning. Some of the connecting themes may still be focal but some may have sifted to a more peripheral status. As in Luhmann's (1995) original description of a communication process, themes have not only social and factual but also temporal aspect. Although the factual content relates themes to a context and enables coordination function, the temporal aspect changes the relative status of the themes. Past contributions may, for example, have a very different relation to the past themes than to a present theme.

As a result, co-evolution of collaborative business takes the form of evolution of any business. At this stage, facilitation of learning shares common paths with a traditional business model. The collaborators have to be able to follow the development of key business items and update the approaches accordingly. They have to utilise success and acknowledge failures, and understand the meaning of these for all the parties involved.

3. PRACTICAL EXAMPLES: CASE METSO

This chapter presents empirical examples of the conceptual processes within the framework proposed. Due to the limitations on the length and scope of this paper only certain issues are highlighted in relation to each step of the framework presented. The data is based on real business relationships between Metso Corporation and its customers. All the interviews are made by Oksanen (2003) and this same data is used in her MSc study focused more closely on CRM viewpoint.

Shared goals – arousing interest

First, it is important to realise that in addition to the focal themes (goals) of the interrelated communities, also "meta-themes" exist. In the interviews, several such meta-themes were found. Trust, for example, has a critical role in the customer service business because a service contract is made based on customer's confidence on Metso's expertise and capabilities.

"When the service contract was made there was no existing technology or application that would have enabled us to obtain the goals. Thus, the customer has a strong faith in our expertise and trusts that the solutions will be found through co-operation." Mill CR Manage, CRM, Metso Paper (Oksanen 2003)

There are several ways to find the common goals. Typically, the service provider has to be more flexible in the relationship. In Metso, the objective is to take part to the relationship through out the entire life cycle of customers' products and production lines.

"We have to learn in the customer relationship. If you feel like you already know everything then you should stop and think for a while since something is wrong... we can not act in the relationship according to the old needs and habits. We have to listen all the time what the customer really wants and how these needs are developing." Mill CR Manager, CRM, Metso Paper (Oksanen 2003)

Shared rules – enabling co-operation

"Our (Metso and customer) views on co-operation are bit by bit going to a same model. This is due to the conversations and personal relationship that has developed to a friendship over the years...Probably the relationship is seen as something that eases every day job and this way enables faster problem solving." Specialist, Jyväskylä Service Technology Center, Metso Paper (Oksanen 2003)

The collaborators need to create common understanding on what are the core values based on which the co-operation and common rules are build on. Conflicts on the common value creation may become visible as lack of commitment or disagreements at the individual level.

"We have to know the customer and the existing operation models and values. Moreover, we need to adjust our behavior / operations according to theirs at a mill level." Mill CR Manager, CRM, Metso Paper (Oksanen 2003)

"In general value scheme should be based on customer centric honesty." Metso's Customer (Oksanen 2003)

During this step also the responsibilities and roles are typically defined. Today, certain roles in a close business co-operation may be very different compared to those of a traditional transaction businesses. Such a role is, for example, the role of a key account manager.

"I am a customer's quality manager in vendor's organization. And the quality is not just a metric for certain equipment, it is that the relationship with the customer develops continuously." Mill CR Manager, CRM, Metso Paper (Oksanen 2003)

Shared methods and tools – augmenting social bonds

As discussed earlier, although ICT solutions are important facilitators of collaboration, the social processes are the real enablers. Personal relationships, for example, are considered to be important for the development of a business relationship. In Metso's business model it is common that the individuals participate to the same relationship for a long period of time.

"Conditions for learning are clear goals and that contract and economical issues are in order. The goals should be linked to methods and tools. To be able to synchronize all this, flexibility from both parties and personal relationships are required. In practice this happens in a way that the same

people are in the relationship from one year to another and things are done and discussed together." Metso's Customer (Oksanen 2003)

"Through the contract three issues have been integrated: our maintenance, supplier and production data ...we have been able to increase the production line capacity. We have been able to integrate the supplier to our operations and we are kind of enhancing element in the between. We have been learning bit by bit... It is always a common learning process. Thus, there is no short cuts to the results, we have to work together." Metso's Customer (Oksanen 2003)

In addition to formal methods, informal communication and activities such as sauna evenings, coffee breaks etc. are important in order to create social bonds and understanding between the collaborators.

"Official meeting are too formal. I have got the best feedback and comments in informal meetings / events with the customer." Product Manager, PDS, Metso Paper (Oksanen 2003)

Shared activities – deepening understanding and trust

In the field of pulp and paper industry, there has been a trend to allocate more activities to suppliers and third parties and to concentrate on core competencies and core businesses. As a result, there have been good opportunities for Metso to find interested customers to co-operate and learn together new business and operating models.

"Deepening understanding and trust in the customer relationship is crucial otherwise we are not able to discuss about the more sensitive issues with the customer... Moreover, the customer is seldom able to communicate these in an explicit form. " Manager, MAS, Metso Automation

"At the moment in this service contract we are in a situation that customer and us are thinking how to develop this relationship further in terms of co-operation and operating model." Product Manager, Järvenpää Service Technology Center, Metso Paper (Oksanen 2003)

In certain cases, Metso is in very close relationship with the customer's service organisation. In practice, for example, a joint problem solving team has participants from both Metso expert networks and customer's service and maintenance units and this team takes part to the service functions of the production line.

"The customer considers this kind of taskforce activity that enables common and systematic problem solving to be the most efficient way to improve and develop production line." Specialist, Jyväskylä Service Technology Center, Metso Paper (Oksanen 2003)

"If the customer relationships is successful then you are one step ahead and understand the seriousness of the customer's problem, know how to prioritize them and take them forward in your organization and this way

solve the problem before it escalates into a conflict." Mill CR Manager, CRM, Metso Paper (Oksanen 2003)

Co-evolution – collaborative business

A collaborative business is not an end of the development. Instead, it evolves as any other business. In Metso's main business areas, for example, it is likely that collaborative activities do not develop only along the traditional business chain. In addition, various interrelated communities are likely to prove their value in business co-operation and continue the development of collaborative business activities. Also, certain communities are likely to disappear because they can not bring any benefit in the new business situation.

"This is a good relationship since we have common interest to develop the relationship further in a situation where it delivers more added value to both. Thus, we do not just do things in the way we are used but both parties want get further in the co-operation." Vice President & General Manager Jyväskylä Service Technology Center Metso Paper (Oksanen 2003)

"All the relationships should develop otherwise they will lose their meaning. We need to develop closer to the core business and this leads to situation where we need to do even more tight co-operation with vendors in certain areas. This requires readiness from both parties." Metso's Customer (Oksanen 2003)

"We would like to be part of a community or network that is evolved around technical issues that are not key success factors of any one of us. The network would include Metso and other suppliers and our competitors. " Metso's Customer (Oksanen 2003)

"Our way of thinking is not one where we would only try to develop a product or service that is easy to sell to the customer and then leave. Instead, we think about how to develop our products and services throughout the entire life-cycle. This requires involvement from the different functions from the very beginning of the relationship onwards." Senior Vice President, Sales, Process Automation Systems, Metso Automation (Oksanen 2003)

4. CONCLUSIONS

In the present paper, both theoretical viewpoints to the collaborative learning and practical issues in the context of business activities are discussed. A novel framework for collaborative learning is proposed. It encapsulates several major elements of the collaborative learning process and provides an insight to the process itself. In order to give examples of the practical relevance of the framework, several examples of real business cases are presented.

The conceptual framework presented should not be regarded as a fixed model for addressing all possible issues in this area. Instead, the framework describes how collaborators in a certain business context may share a mutual learning process and through participation, learn to

understand the activities of the interrelated communities, relations between the collaborators and their contextual surrounding.

This learning process may lead to such a business integration were the creation and existence of knowledge is one of the governing issues. Or, it may lead to better understanding of the current business. In both of these cases, the present authors maintain that to be able to promote sustainable collaborative activities it is necessary to understand the underlying social grounding.

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