

COMMUNICATING TRUST ACROSS DISTANCE – EMPIRICAL STUDY ON TRUST IN RELATIONSHIP DEVELOPMENT THROUGH TECHNOLOGY-MEDIATED COMMUNICATION OF TWO VIRTUAL TEAMS IN THE ICT SECTOR

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Session E-3

Abstract

Trust has been identified as a key factor leading to successful relationship development in virtual teams. This study concentrates on trust and the challenges and possibilities in building trust through technology-mediated communication in virtual teams focussing on the creation stages of virtual team development. In order to understand the mechanisms and dynamics in trust building two case studies in virtual teams were conducted.

The results of the two case studies show that different types of communication behaviour and member actions facilitated trust at different stages of the virtual team's development. Theoretical contribution of the paper lies mainly in elaborating the role of virtual trust in different stages of the virtual team creation. The study captures some of the dynamics both in virtual team development and trust building, as well as the different role and nature of trust in different stages.

Keywords: Virtual teams, communication, trust, building trust, relationship development.

Communicating Trust across Distance - Empirical Study on Trust in Relationship Development through Technology-mediated Communication of Two Virtual Teams in the ICT Sector

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Suggested track:

E Communities of practice, knowledge networks and networking

1. Virtual Teams as a Focal Mode of Organisation in the Knowledge-based Competition in the Network Economy

In order to cope with the challenges and demands of the changing business environment many companies explore more flexible organisational structures. Virtual teams can be considered as evolutionary forms of network organisations (Miles and Snow,

1986). They are seen to offer the benefits of increased flexibility, speed and leverage of diverse skills and expertise to challenging problems. (Kimble et al., 2000). In the literature on social capital trust and communication have been identified as critical mechanisms for building social capital and enhancing group coordination (e.g. Burt, R., 1997; Ruuskanen, P., 2001; Nahapiet et al., 1998)

Communication and trust are crucial in any forms of organisation and collaboration. However, in virtual teams it is of even greater importance. If there was a better understanding of collaboration processes and, hence, trust and communication in virtual teams, virtual teams could be considered as a focal social and structural innovation in the knowledge-based competition in the network economy.

In general, virtual teams are considered to interact electronically and work across time and space. In the most extreme form of virtual teams, the virtual team members are considered to work in separate locations and never communicate face-to-face. These type of virtual teams in a business context are still rather rare, but can be found e.g. in expert call centers etc. However, in their less extreme form virtual teams may also consist of several co-located clusters or subgroups whose members are also able to communicate face-to-face. In this study a virtual team is defined as being a *non-temporary, geographically dispersed and mainly electronically communicating work group*¹. It is proposed that communication and common identity hold the virtual team together in the minds of individual workers (DeSanctis et al., 1999) Furthermore, according to computer-mediated communication approaches such as the *Social Presence Approach* and the *Media Richness Approach*, trust building in virtual teams may be considered questionable. In the following sub-chapter, we discuss computer-mediated communication.

2. Challenges in Virtual Team Management: the Management of Communication and Trust Building

Through computer-mediated communication, virtual team members are able to form linkages to other team members and parties across time, distance, culture, departments and organizations. It has been argued, however, that in virtual teams the lack of social context may make it more difficult to develop trust between the team

¹ Varying the definition for virtual teams presented by Kristof et al. (1995) and Mowshowitz (1997) ref. Järvenpää et al., 1998b.

members (Kimble et al., 2000). Next, the main theories on computer-mediated communications are analysed from the point of view of virtual teamwork. In addition we present a review on antecedents of trust in a virtual team context.

2.2. Review on Computer-mediated Communications and Virtual Team Work

In order to gain the virtual team benefits team members would need to be able to communicate with anybody they need regardless of distance and time. There is a strong body of literature on synchronous and asynchronous communication in organisations. The main conclusion in the earlier research on the social effects of computer-mediated communication has been that the lack of non-verbal cues has negative effects on the relationships. The *Social Presence Approach* (Short, Williams and Christie, 1976, ref. Warkentin et al., 1999) states that media differ in their ability to convey social presence which is defined to be “the perception that communication partners are socially and psychologically present during the communication situation”². The *Media Richness approach*, on the other hand, claims that media vary in the capacity to carry information. (e.g. Daft et al., 1987) Both approaches suggest that computer-mediated communication technologies may prevent such cues which transfer “trust, warmth, attentiveness and other interpersonal affections” (Järvenpää et al., 1998a and Daft et al., 1987, see also Rasters, 2001). In line with these theories, it has been argued that the development of trusting relationships is questionable in virtual teams.

Somewhat on the contrary, *the social information processing theory* (Walther 1996) argues that computer-mediated teams can share relational information. According to this theory, social relationships just take a longer time to develop in computer-mediated groups where the transfer rate is slower. Thus, computer-support does not limit group interaction, as initially expected, and the group is able to overcome the limitations when given enough time. Walther (1995, 1997) has even found cases where computer-mediated groups demonstrated more social discussion, depth and intimacy than face-to-face groups. Similar findings can be found with culturally diverse and geographically dispersed members who had never met face-to-face (e.g. Järvenpää et al., 1998a). Walther (1997) developed a *hyperpersonalisation theory* in line with his findings based on the *SIDE-theory* (*social identification/deidentification-theory*) by Spears & Lea

² (Steinfeld, 1992)

(1992). The SIDE-theory states that people engage themselves in the process of self-categorisation in which they categorise themselves either to be part of a group or outside the group, (e.g. Deux, 1996, ref. Järvenpää et al., 1998a). The categorisation itself is based on the characteristics of other members in the group. This implicates that similarity with others strengthens group members' own identities and positively affects their willingness to co-operate (Järvenpää et al., 1998a). Cramton, 2001, also found information problems, such as "Failure to Communicate and Retain Contextual Information" and "Unevenly Distributed Information", especially important for the building of trust in case they were considered to be "failures of personal reliability" (Cramton, 2001).

In sum, according to the SIDE-theory and theory on hyperpersonalisation, the lack of social cues does not mean that there are no relational elements in communication through technology. Also, according to these theories identities can be built via computer-mediated communication. With the help of these theories we may try to describe how communication changes as the teams "go virtual" and hence, what happens to the relational basis of transactions i.e. trust.³ In the following sub- chapter we analyse the role and meaning of trust in virtual teams.

2.3. Review on Trust in Virtual Teams

According to earlier research, the most important component in team development and effectiveness is trust (e.g. Järvenpää et al., 1998; Solomon, 2001). If there is a trusting climate in a team, the team is able to build commitment and cohesion, as well as new ideas and new creative ways of thinking despite of differences in opinion, diversity and conflicts. If there is no trust, creativity will most likely not prosper and no significant conversations take place. Trusting relationships between the team members and the team leader help the team to concentrate on given tasks, and therefore the overall contribution of the team to the organisation is maximised.

Trust is defined in this study as the "*actor's expectation of the capability, goodwill and self-reference visible in mutually beneficial behaviour enabling co-operation under risk*" (Blomqvist 2002). This specific definition for trust is adopted because it is

³ However, it is noteworthy that in the business context the virtual team members have also other technologies (such as telephone) to support communication.

comprehensive, easy to understand, and is based on four clear dimensions⁴. The capability-component includes technological capability, business capability and meta-capability to co-operate. Goodwill consists of moral responsibility and positive intentions towards other individuals. Self-reference means that a person or a corporation has a clear identity and ability to make decisions. Furthermore, the actor is able to perceive their own strengths and weaknesses. Behaviour, on the other hand, adds to trustworthiness e.g. when the trustee fulfils the positive intentions (Blomqvist, 2002, 175-179). According to Blomqvist (2002) conceptualisation is useful in understanding trust at individual and corporate levels. In this study also its suitability for the team level is also assessed.

In the context of virtual teams, it has been proposed that trust tends to be created at the outset of the team building in virtual teams (Järvenpää et al. 1998a). In virtual teams where individual tolerance and experiences (e.g. Duarte et al., 1999), social similarity (e.g. Järvenpää et al., 1998), forms of socialising, caring talk, personal conversations, story telling, humour (e.g. Holton, 2001), ritual and ceremony, shared values (e.g. Järvenpää et al., 1998), keeping commitments and promises (e.g. Holton, 2001), concern for the well-being of others (Duarte et al., 1999), goal-setting (e.g. Holton, 2001), condensed communication (e.g. Holton, 2001), providing critical information equally (e.g. Duarte et al., 1999), integrity, standing behind the team and its members (e.g. Duarte et al., 1999), reputation, ability to obtain resources and appropriate experience (e.g. Duarte et al., 1999) are seen as antecedents of trust. According to the literature review on trust in the virtual team context, such sources of trust as morality and ethics, guarantees, agreements and formal contracts and co-operation itself have rarely been discussed (see forthcoming Henttonen and Blomqvist, 2004 on antecedents for building trust in the traditional context). This may be due to the fact that trust in the traditional context has been studied more in-depth. The difference can be understood partly by the lack of context for evaluating virtual team member behaviour in relation to others. Also the research on trust and contracts is related more to contexts like subcontracting.

It is proposed that both traditional and virtual teams develop through several phases during which the nature and role of trust also may vary. Lewicki and Bunker (1996) state that the developmental view of trust is closely connected to relationship

⁴ The components are behaviour, goodwill, capability and self-reference. (Blomqvist, 2002)

development. According to the *Team Performance Model* by Drexler et al. (1988) virtual team development can be described as having seven stages. The first stages are called the creation stages: orientation, trust building and goal clarification. These are followed by the commitment stage and the sustaining stages: implementation, high performance and renewal. In the present case study and this paper the focus is on building trust in the creation stages. Therefore, the sustaining stages are out of the scope of this case study.

3. Research Questions and Research Design

In this study the main aim is to explore communication and trust building in the context of virtual teams. This is done by analysing the relationship development processes in virtual teams through technology-mediated relational communication. This study attempts to find answers to following main question *how to build trust in virtual teams?* and the sub-question what kind of *relational communication* or *member actions* enhance trust building during the *creation stages of relationship development?*

3.1. Unit of Analysis

In this study trust building in virtual teams was examined by conducting two case studies. The case study A was a global management and service team in a large and global ICT company and the case study B was a work team in a Nordic ICT company⁵. The participants' interpretations of their own experiences in a global virtual team were considered as important information on the experienced impact of the distance on trust. The features of the case team are worth noticing as the risks or the drivers of trust (due to the different tasks virtual teams perform) may be different and hence the challenges to trust building may differ. Furthermore, it should be noted that in both virtual team cases (A and B) the team members were from the same organisation. In the scope of this study it was not possible to explore if there were differences (e.g. in organisational culture) between the different company sites in either of the case studies. In the following the case studies are presented.

Case Study A: Global management and service team in a large global ICT company

The global ICT case company A team had features of both the *management and service team* defined by Duarte et al., 1999. The case team had a supporting function

⁵ According to the wishes of the case companies, the company names are not presented.

when it came to network and customer activities. On the other hand the case team was like a management team responsible for leading local corporate site activities. The case virtual team was also a multi-state trans-national team working through multiple time zones and in different company sites. The 23 virtual team members came from Asia, USA, Australia and Europe. Eleven of the participants worked in their home countries and five team members in a foreign country. Only 42% of the respondents spoke English as their mother tongue. The most homogenous element among the team members was that they were all managers. Also, most of the team members had a technical occupational background. The communication in the case team mainly took place by phone, email and Netmeetings™. The Netmeetings™ were mainly informative and concentrated on reporting. Even though the meetings normally lasted approximately two to three hours, there was not always much time for discussion. The Netmeetings™ were based on an agenda and according to the agenda the current issues and forthcoming events were dealt with. The Netmeetings™ in general were considered difficult to organise and they were not held once a month. In order to enhance communication a web-based collaboration tool called the QuickPlace™ was also used. The function of the QuickPlace™ was to inform about the state of the project and it also contained the minutes of the meetings held.

Case Study B: A service team in a large Nordic ICT company

In the Nordic ICT case company the team was a *work team* as defined by Duarte et al., 1999. The case team had a distinct membership and also the boundaries of the team were clear, despite that temporary team members were used at times to decrease the workload. The work performed by the case team was regular and ongoing and it concerned one functional area. The case team members had the same nationality and shared a common mother tongue. Also, the case team members were located in different cities within the same country. However, the most of the team members considered that there were national cultural differences between the team members. In comparison to the case team A, the case B team members were not alone in their location. All the case team members had four to five co-located case team members. However, continuous work-related interaction between all the members was a necessity. The team members were located in three different cities. Four team members resided in northern part of the country, other four members were located on the west coast and five members were located in the south. The team members residing in the same cities had also previously worked in the same team and hence

had some common history which could be considered an advantage in trust building. All in all, there were 13 permanent team members. In the case team B all the team members were required to be able to take care of similar kind of tasks in the team and job rotation was used.

The communication in the case team mainly took place by phone, email and Netmeetings™ (every two weeks). The Netmeetings™ concentrated mainly on agreeing on the job responsibilities for the next two weeks. Also some work-related announcements concerning the whole team were sometimes made during the meetings. The team members mainly felt that the large number of people (all team members) attending the Netmeetings™ hindered discussion during the sessions. Earlier, Netmeetings™ took place once a week, but nowadays there is only one session in a fortnight. It was considered that there was no need for weekly sessions. In addition the team members used a place assigned to them on the company server to store documents e.g. important job instructions.

3.2. Data Collection and Analysis

The case method can be considered a suitable method when studying “soft”, multi-dimensional, complex social phenomena or ambiguous issues like trust (Yin, 1994, 3 and Blomqvist, 2002, 27). The data collection method (phone interviews) in both case studies relied on theoretical propositions (Yin, 1994, 103) which were drawn from literature review and were reflected in the research questions (Yin, 1994, 103). In the interview also some open questions were posed to find out possible new emerging issues of relevance. (see Appendix 1.)

The interview consisted of 21 open questions and 16 of them are dealt here. All the interviews in the case A were conducted during one month. In the case team B the interviews were conducted in a week. One interview took approximately one hour. In both cases those who took part in the interview comprised of some 40% of the team. The questions were sent to the interviewees beforehand. This was done as the questions in general were rather demanding and needed recalling of past incidents. All the interviews were taped with the permission of the interviewees. The recordings were transcribed word for word for further analysis, but silence, pauses and other sounds were omitted.

In both case studies the task after organising the data was to analyse each question separately by using classification based on specific themes (like. e.g. fast trust, communication failure). The themes were formed by trying to find e.g. actions and assumptions, which were related to the theoretical assumptions behind the questions (Ryan et al., 2000, 780). The phone interview data were analysed question by question. First all the answers to each question were read through. After that, all the answers were read again and main themes from each answer were collected. Then, similar themes from all the questions were grouped together and sub-groups were named. After that sub-groups were organised into several main groups and some of the most representative quotations were selected to represent the main group theme in the empirical part of this paper. Open questions were studied in order to find new emerging issues. Finally, all explanations and outcomes of both cases A and B were compared to each other.

3.4. Limitations in the Case Studies

One limitation of the study may have been the chosen method of study. When trying to explore the social communication and behaviour in the virtual case team by using an interview, the outcome was e.g. dependent on the memory and experiences of the respondents. The outcome could have possibly varied if there was opportunity for participant observation and to analyse e.g. email archives for a longer period of time. Furthermore, there were two different virtual teams under study. In the virtual team A nine team members participated in the interviews and in the virtual team B five members of the team were interviewed. The characteristics of the teams in question may also have affected this study. The case team A was a mixture of a management and service team and the case team B was a work team, for example, in comparison to a team which has members from different departments or to project teams which are mainly short-term teams and both the case study teams were long-term teams. It should be noted that in the case team B two interviewed members were also leaders of the team. Whereas, in the team A all the interviewees were team members.

4. The Role and Nature of Trust in Virtual Team Creation Stages

In this chapter the empirical results of the study will be discussed. First, we discuss the relationship development and trust-building in each of the creation stages. It is

noteworthy that the different stages of relationship development are overlapping. Finally, we will discuss how to build trust on virtual teams based on the two case studies.

The relational communication behaviour in both case studies was explored with the help of a relationship development model, the Team Performance Model⁶ which was selected to demonstrate the kind of activities the communicators could take in the early stages of the meeting process and structure the presentation of the empirical results. For example, in the early stages introductions could be made and team members might want to get to know each other. In the model trust-building is a stage of its own. However, here it is considered that trust-building takes place during all the creating stages of the relationship. The trust building stage deals with issues like performance, skills and dedication of other team members. Similar phases as in the model could be identified in the responses.

4.1. Orientation Stage and Trust in the Case Team

The first step at the creating stage is orientation which is concerned with issues like a team member's personal fit in the team and the feeling of being accepted as a full member. (Drexler et al., 1988) Before joining the virtual case team the respondents had different expectations concerning virtual teamwork which amongst the majority of the interviewed virtual team members [6 respondents] in the case team A were most often concerned with improving the efficiency of their daily work in some respect e.g. sharing information and experiences concerning business issues more effectively and avoiding duplicated work. The other three interviewees in the case A did not have any special expectations. They described themselves as being open-minded and inquisitive concerning the work in the virtual case team. In the case team B, two respondents thought that the new organisational form (virtual teams) was introduced by the upper management and the opinions of the people were taken into consideration only seemingly. The respondents, however, said that they understand the decision of the upper management when considering the efficiency and nationally more uniform quality of the service production. In general the expectations in the case team B were also positive and concerned with improved knowledge and information transfer for the benefit of the individuals and for the team and the company.

⁶ Created by Drexler et al., 1988.

The starting points for the virtual work were also somewhat different in the case virtual teams. The case companies had different reasons for using virtual teams. In the case company B the number of dispersed teams has increased due to a customer-driven reorganization and a merger. In the case organisation B it has been acknowledged that internal collaboration capability has become a more challenging and critical factor in the increasingly competitive market. These types of changes in the organisational structure lead to more networked and leaner forms of working in the case company. Also the best specialists were selected to join the virtual team. Many employees applied for the team but were not selected. The popularity was due to the functional area in which the virtual team was going to work which was considered to be very promising and prosperous in the future. In the case company A, however, the virtual form of organising aimed more at centralising the management of rather independent sites through a virtual management team. These members could be considered to have a personal fit through their similar occupations as site managers. However, also in the case A team members seemed to have a very strong confidence in each other's skills. Hence, those who were selected to be members in the team could be considered to fit the team and have a feeling of being accepted as full members.

At the beginning of the teams life introductions were made e.g. by email or by phone and people started to get to know each other. Those who co-ordinated the functioning in the team (global unit in the case A and team management in the case B) took the initiative of making the introductions. Also trust seemed to begin to evolve due to the repeated interactions. *"You instantly knew that things will run smoothly with some people and not so smoothly with other people...or maybe you did not know it the first time, but after few times you already knew that from these people you can expect it (reply, answer) to come right away and from these other people not...I formed it (the perception) on the basis of first impressions and it (the perception) has been quite right."* (Case A: team member 1)

In both case teams prior to a face-to-face meeting the language used in emails tended to be rather official and very few social cues were present in these messages. In the Case A the situation amongst the co-located clusters of team members the situation was, however, different in this respect.

From the beginning of the teams' life especially member action like delivering the agreed results [Case A: 1 and Case B: 4] was considered to contribute to trust building. One team member explained: "...when I ask another team member to do something, I can trust that the task gets done properly" (Case B: team member 5) Also taking initiative [Case A: 3 and Case B:1] was considered to contribute to trust building. One team member said: "Well, if you are honouring the commitment and also proactive action on specific instant or if I need information in some particular area and my colleague has the information and understands that it might be applicable to myself..." (Case A: team member 8) Thus the member capability, proactive behaviour and information sharing were seen to build trust in the orientation stage.

4.2. Goal Clarification Stage and Trust in the Case Team

In the goal clarification stage, the focus is on the clear understanding of roles, goals and objectives (Drexler et al., 1988) The case teams seemed to reach the goal clarification stage (Team Performance Model) in the first face-to-face meeting. The importance of face-to-face meetings in this sense was brought up by four interviewees in the case team A and by all the respondents in the case team B. Hence, trust seemed not to be arise without feelings (e.g. personal interaction or social information) and therefore face-to-face meetings were of importance. All the team members in both case teams expressed their willingness to meet face-to-face at least once. After the face-to-face meetings the communication also seemed to increase, and increased communication seemed to help the team members to evaluate other team members' behaviour as well as their trustworthiness.

The case study results in general [Case A: 7 respondents, Case B: all respondents] show, that also social information in addition to task information was communicated in both of the case teams especially after they had met face-to-face. One respondent explained: " when I am calling about some work-related issue...it may be that some kind of (personal) discussion puts out...and I think it is good that every discussion is not just work-related...you get to know about the characteristics of the other person and you get more out of the interaction" (Case B: team member 5) Two respondents (Case team A) were a bit sceptical about communicating social information. They indicated that such close social relationships are not actually possible in a virtual team context. In their opinion the relationships would need a face-to-face contact in order to

evolve. According to earlier research (e.g. Warkentin, 1997) relationship-building is easier in face-to-face contact than in the virtual context. This may be partly explained by the missing social cues. None of the respondents in case team B indicated similar issues. This may be because they also have co-located team members.

In order for a team to function effectively the interviewees considered that a clear understanding of the goals as well as of the team member roles was needed. The clarification of roles and goals also needs to be done in a clear manner because of the variance in understanding and the use of language (Drexler et al., 1988) due to different nationalities or different background (e.g. young vs. old, men vs. women) Two respondents described the meaning of face-to-face meetings as follows: *"I think one milestone was this getting together ... it changed...it gives us directions..."* (Case A: team member 5) *"It is especially important to get to know the team member...and when they (the meetings) are not just what we do (at work) and how do I cope, but also relaxing and being together"* (Case B: team member 2) In order to clarify the roles and responsibilities for good Drexler et al., 1988, suggest that a written public record of the integrated goals with matching responsibilities could be drawn. This was suggested by most [4] of the interviewees in case B. Also they consider it important that all the team members are aware of the assumptions and values behind the responsibilities as the goals are based on them.

After communicating about the roles and responsibilities the ways of communication were established. *"And then right after that we were in the global tried to establish these connections toward them creating these mail groups and writing some kind of...writing in the intranet and giving some kind of information and so when we created something we just distributed it to them and when we needed something we...sometimes called them and asked them by phone and sometimes we asked by email...this was the co-operation"* (Case A: team member 5) In the case team B, a face-to-face meeting was held couple months after the team was formed. On the other hand, in the case team A the face-to-face meetings were held ca. 6 months after the team was formed. In both cases time for both business and pleasure was dedicated.

We conclude that the responses from both case studies showed that the best way to build trust at the beginning of the team's life would have been a face-to-face meeting. It was considered also the best way to clarify the roles, responsibilities and goals. Also

the clear goals and directions and clear responsibilities from the start were considered important trust-builders. Furthermore, it seems that social presence in the form of face-to-face meetings is very important for trust building in the case virtual teams A and B. Therefore, it would be necessary to invest conscious effort in building a relationship amongst team members and after that focus on having working relationships. Face-to-face interaction still seems to be considered somewhat ideal in the case teams. The results concerning social communication in both of the case teams also would indicate some presence of care and concern (goodwill-component of trust) and generally positive attitude towards co-operation (self-reference component of trust). Thus we conclude that the relational links, according to the TIP-theory (McGrath, 1991), seem to have importance also in the case teams.

4.4. Commitment Stage and Trust in the Case Team

The commitment stage deals with moving into action (Drexler et al., 1988) The commitment stage is considered to be reached when the team has a shared vision. In both cases the team members saw that the team had progressed in many respects when comparing the situation in the very beginning. It is proposed that the achieved progress has increased the sense of belonging to the team. The case team members (Case A: 4 respondents and Case B: 2) considered communication to be improved. Also the face-to-face meeting had an impact in this respect. In the case team B also more uniform ways of working and better quality of work was mentioned by three respondents.

One case team member (Case A) also considered the turbulent market situation to have an impact on the functioning of the virtual team and in the case team B all members indicated that the workload, due to the situation in the market, is very heavy. In the case B, several [3] respondents indicated that when people are committed to the team and their work (and hence trusted) they will also work overtime if their family situation or other similar constraints do not refrain them from doing it. It was considered [3 respondents] that if some people in the team do not do their share of the extra work (even if they could) it impacts the collaboration in the team and trust building. In the case team A four of the respondents were not able to identify anything that would have changed in comparison to the situation at the beginning of the team's life and now approximately one year later. It is proposed that this may indicate some lack of interest

or commitment towards the virtual team collaboration.

The respondents identified some phases in the team's life after the initial stages (here the commitment stage and possibly stages after it) which they considered to be critical and significant with regard to collaboration, trust building and commitment towards work. The face-to-face meetings were mentioned most often [Case A: 4 respondents, Case B: all respondents]. Here is an example of what one respondent said: *"..when we have got together...these meetings...it kind of brings the kind of right working spirit for the whole team" "and I feel that after these meetings the quality of work is also better"* (Case B: team member 4) The respondents suggested that later on in the teams life trust could be built via promoting communication. According to the responses this could be done by visiting others and having face-to-face meetings. Also open and honest, as well as regular communication, feedback, keeping promises, free circulation of information and not changing the team members too often were considered important.

Some team members (Case A: 3 respondents, Case B: 2 respondents) in both case teams were worried about the changes in the team leadership. Stability in this sense seemed to be appreciated. It is proposed that also the team leaders' commitment to the team had an influence on the team members' commitment. Other critical incidents were considered to be a headcount reduction (case A). It is proposed that these types of issues, in the eyes of the respondents, reflected the commitment the organisation has towards the team and hereby also influences the team members' commitment to the team. In the case team B, several interviewees mentioned that they had got new temporary team members (case B) to their team to decrease the workload of the permanent workers. Also, monetary rewards to increase commitment and work satisfaction were mentioned by three respondents in the case team B. This is proposed to indicate organisational commitment towards the team and the team members' well-being.

In summary, the face-to-face element is considered important also in the commitment stage. It seems that social communication and hence trust building should be encouraged e.g. by providing time and place for it. It is however obvious that this type of conversation should not disturb the team's tasks. The impact of external elements on the team should also not be disregarded. The tight economic situation is likely to

cause people to become more stressed and less committed if the virtual team does not provide them the support they need.

5. Conclusions and Discussion

The elements of the action-oriented trust (e.g. proactive behaviour, open communication) in the case teams resembled swift trust. The lack of face-to-face meetings and other social interaction made it difficult for the social-based trust to develop to a large scale in the orientation stage. This might explain some of the challenges the case teams faced. Based on previous research it seemed that trust in a virtual team is dependent on communication behaviours e.g. social communication. Furthermore actions like individual initiative advanced trust building. So, at the beginning the social-based trust seemed to have relatively more importance and later on the action-based trust was more essential. At the outset, virtual team members wanted to get to know each other in person. In the case team A the initial trust (fast trust or swift trust) seemed to be based, in addition to capability, on organisational identification. In the case team B the initial trust seemed to be based on the previous common work history, but also personal fit and acceptance.

The initial trust seemed to form during the first interactions. Typical to these interactions was that evaluation of the counterpart party was connected to action. In the case teams one failed interaction did not immediately seem to destroy trust, but it violated it and loaded the communicator with sceptical expectations towards the other party. If the sceptical expectations were fulfilled several times the team members especially in the Case team A started to avoid interacting with that counterpart.

In the context of virtual teams, there were also other ways to convey social cues than just social conversations. The social status in the virtual team was also conveyed by, what was called by Cramton, 2001, the information problems. The positive social cues in the case team were indicated by *communication behaviours* e.g. open communication. Social status was further communicated by taking initiative and by delivering agreed results. Also team leader actions such as letting employees participate in the decision-making was considered to have a positive impact on relationships. In the case B, some team members were also willing to take an even more active role if granted.

The technology-mediated communication did not however seem to transfer enough social presence, based on the case team members' opinion. Complementary forms of conveying social presence e.g. face-to-face interactions were definitely needed. The face-to-face element was considered especially important when launching a virtual team but also in the later stages of creation. Also, it was found that in the very early phases of the virtual teamwork trust was predicted strongly by perceptions of other team members' capability (case A). The capability components seemed to provide a basis for initial trust via identification. The rationale behind this was that the team members trusted the case company to employ only capable people. This finding differs slightly from the previous findings (e.g. Järvenpää et al., 1998a and 1998b) which conclude that the perceptions of other team members' integrity was significant in the early phases of the collaboration. It may be because the context⁷ of their study was different. In the case team B, in the very early phases of collaboration, trust building was based on previous knowledge on other team members and experiences on previous collaboration with them. In the virtual case team context the self-reference component was not evidently present. The salience of the behaviour component, however, increased over time. Järvenpää et al., 1998a, also stress the importance of behaviour by talking about action-based trust in the context of virtual teams.

We noticed some inconsistencies between the responses of different team members. This finding also shows one more challenge in maintaining a virtual team. It may be that in a large virtual team some of the members or some clusters of members are satisfied with the functioning of the team and some are less satisfied. It takes a lot of effort to figure out the general situation in the team and to be able to improve the situation thereafter.

Our main conclusions are that face-to-face meetings at early phases seem to create social-based trust and related team culture at the outset. Face-to-face encounters enhance further communication which will be seen more as a source of trust when relationships are anchored (based on social-based trust). Based on both cases the role and timing of face-to-face meeting(s), as a basis for social based trust, cannot be underestimated. We expect that in many cases the face-to-face meeting act as a

⁷ Järvenpää et al., (1998a and 1998b) studied trust in temporary global virtual teams, which consisted of Master's students. The context of this study was permanent intra-organisational management team.

threshold condition for socially supporting communication behaviour (and is also perceived as such) impacting also team culture and subsequent team performance. We also propose that the content and the context in the early creation stages should be mixed and not treated separately. The multiplexity of communication has been proposed to be a strong source of emotional commitment and trust (Blomqvist, 2002) Case B revealed the critical and mutually enforcing commitment as a source for trust. In the case team proactive employee and team leader actions created mutual commitment. Thus issues like goal clarification, instructions, personal fit, team vision and personal support should be discussed in the same context and time, not in separate times and occasions or communication “channels” to create trust and commitment.

Based on the cases, our final conclusion is that team creation stages cannot be separated into orientation, goal clarification and commitment stages. Instead, from the point of view of trust, stages must be seen as an ongoing process. The process itself must be seen as an iterative and self-enforcing circle in which trust is continuously involved and where each part of the circle enhances trust. Trust can be purposefully built and team culture and commitment enhanced if the dynamics of the early team life are understood.

Further research could be conducted to study how to maintain trust in virtual teams. Also we need more research to find out what extent the electronic communication actually is able to substitute personal relationships and what roles do different media play in this process.

Appendix 1: The phone interview/questions.

TRUST

1. What is trust in your opinion? How would you characterise it? (THE CONCEPT OF TRUST)
2. According to your opinion and experience, what are the barriers to trust in virtual teams? (BARRIERS TO TRUST)
 - A) What would prevent you trusting the other members in the virtual team?
 - B) What would they have to for example do, say or write?
3. On your opinion and experience, what are the drivers of trust? (ANTECEDENTS FOR TRUST)
 - A) What would encourage you or increase your willingness to trust the other team members?
 - B) What would they have to for example do, say or write?

RELATIONSHIP DEVELOPMENT AND RELATIONAL COMMUNICATION

4. If you think your virtual teamwork from the beginning to this moment, have things changed? Are there any differences between the situation now and in the beginning? Has there been any critical phase in the co-operation? (RELATIONSHIP DEVELOPMENT)
5. How did virtual teamwork start? How would you describe the early moments of the virtual team collaboration? (RELATIONSHIP DEVELOPMENT, FAST TRUST)
 - 5A) How long did it take for the collaboration to get going?
 - 5 A.1) Why did the collaboration not start right away? Were there problems in the beginning? Can you pinpoint some? (BARRIERS, RELATIONSHIP DEVELOPMENT)
 - 5B) Were there some positive happenings in the beginning? (CONDITIONS, RELATIONSHIP DEVELOPMENT)
6. What or what kind of actions on your opinion have created trusting atmosphere and trust in your virtual team? (TRUST-BUILDING)
7. How would advice others to build trust in a virtual team?
 - Have you any suggestions what kind of things would need to be done right in the beginning? And what should be done later on? (TRUST-BUILDING)
8. Do you discuss personal issues in your virtual team? (SOCIAL COMMUNICATION, SELF-PRESENTATION, GOODWILL; CARE AND CONCERN)
 - A) If you do, how often do you do that? (SOCIAL COMMUNICATION)

*RELATIONSHIP DEVELOPMENT THROUGH TECHNOLOGY AND RELATIONAL COMMUNICATION:
FACE-TO-FACE MEETINGS*

9. Did you meet any of other team members before the meeting in –city-? If you did meet, how many of them did you meet? Who did you meet? (RELATIONSHIP DEVELOPMENT, FAST TRUST)
10. Would you have wanted to meet other team members earlier? Would it have had a positive effect on collaboration? (RELATIONSHIP DEVELOPMENT)
11. On your opinion, what was the impact of your face-to-face meeting in –city-? Are things different now? (RELATIONSHIP DEVELOPMENT, BEHAVIOUR; PERSONAL EXPERIENCE)
12. How, on your opinion, did the face-to-face meeting affect your team's cohesiveness? (RELATIONSHIP DEVELOPMENT, HYPERPERSONALISATION THEORY, SELF-REFERENCE; COHESIVENESS)
 - A) if it had an effect, how did it change the collaboration? (CAPABILITY; REPUTATION, PROFESSIONALISM)
 - B) if it did not, why? Were you disappointed in some specific respect? (CAPABILITY; REPUTATION, PROFESSIONALISM)

RELATIONAL COMMUNICATION

13. Before joining the virtual team, what did you expect of the virtual team collaboration? (EXPECTATIONS, SELF-REFERENCE; POSITIVE ATTITUDE TOWARDS COOPERATION)
 - 13.1.) Now, when you look back, how have things turned out/ were your expectations correct concerning the virtual teamwork? (SUCCESSFULNESS OF THE COLLABORATION)
14. How can you express enthusiasm in the virtual team? Do you ever encourage the other team members? Could you give some examples. (COMMUNICATION)
15. Do you have any ways of filling in the missing information regarding those members who have been not been at work (e.g. because of a vacation)? (COMMUNICATION, GOODWILL; PROACTIVE)

INFORMATION, NORMS)

16. What is your worst communicational experience during the time you have worked in the virtual team?

Could you provide an example? (COMMUNICATION FAILURE)

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