Trust in agile teams in distributed software development

Gitte Tjørnehøj
Aalborg University, Department of Political Science, Fibigerstræde 3.9, 9220 Aalborg SØ, Denmark
gtj@dps.aau.dk

Mette Fransgård
Danske Bank, Ejby Industrivej 41, 2600 Glostrup
mettefrangsgaard@hotmail.com

Signe Skalkam
Energi Danmark A/S, Hedeager 5, 8200 Aarhus N
siskalkam@hotmail.com

Abstract. Distributed software development (DSD) is becoming everyday practice in the software market. Difficult challenges and difficulty reaching the expected benefits are well documented. Recently agile software development has become common in DSD, despite important incompatibilities between the challenges of DSD and the key tenets of agility. Organizations thus face new challenges needing to balance the approaches to achieve beneficial distributed agile practices. Trust is a key in this, since trust is crucial for the necessary corporate behavior that leads to team success. This article reports from a study of two agile DSD teams with very different organization and collaboration patterns. It addresses trust and distrust in DSD by analyzing how the team members’ trust developed and erode through the lifetime of the two collaborations and how management actions influenced this. We found that some agile practice can empower teams to take over responsibility for managing and sustaining their own trust building and that the resulting close personal trust-based ties within the agile team carry the capacity to ease the challenges of DSD stemming from distance. We also found that management neglect of trust-building in other situations can hinder the development of beneficial balanced agile DSD practices.

Keywords: Distributed software development, agile, teamwork, virtual teams, trust building

1 Introduction

Distributed software development (DSD) is becoming widespread as outsourcing and offshoring is becoming everyday practice in the software market. The interest in the arrangements has been fuelled by promises of savings on cost, access to huge pools of skilled
labour and round-the-clock development (Helena Holmstrom et al. 2006). The global market for outsourcing of information technology was in 2010 reported to be $270 billion and the amount is expected to grow by 5 to 8 percent per annum up till 2014 (Oshri et al. 2011). However research has also shown that it is both challenging to pursue DSD and difficult to capitalize the above mentioned benefits (Conchúir et al. 2009).

Among the key challenges are communication, coordination and control issues due to temporal, geographical and socio-cultural distance (Carmel and Agarwal 2001, Ågerfalk et al. 2005). The distance between co-workers in DSD challenge the use of many traditional mechanisms for coordination of work used in co-located settings (e.g. shared view, common native language, frequent formal and informal interactions, insight in the others’ knowledge and expertise). Coordination over distance brings the challenges of less effective and much less communication, lack of awareness of the others context, which can lead to misunderstandings and of incompatibilities in tools, working practices and corporate culture (Herbsleb 2007). Feeding these problems is a range of obstacles that often sums up in difficult collaboration between team members. Some of the most common obstacles are delayed communication and feedback, lack of informal and face-to-face communication, cost of travel, obstacles stemming from differences in languages and culture, dependency on unstable communication technology, work tools and infrastructure and even adopting the necessary tools among the team members can be difficult (Ågerfalk et al. 2005, Thomas and Bostrom 2010).

Suggested ways of overcoming the challenges are many. Part of the traditional solution has been to choose non-complex and independent task for offshoring team members to increase the division of work and thus reduce the need for intensive collaboration and coordination (Carmel and Agarwal 2001, Ramesh et al. 2011). Other recommendations has focused on reducing cultural distance by improving language fit, establishing bridgeheads abroad and engaging key employees as cultural liaisons or by securing shared corporate culture through captive outsourcing models (Carmel and Agarwal 2001). Furthermore trying to cope with temporal distance has lead to offshoring arrangements that increase the overlap in working time and especially to an increase in use of nearshoring (Oshri et al. 2009).

Recently agile systems development has become common as a solution to many of the challenges in the field (Sarker and Sarker 2009). Sutherland et al. (2007) has reported from a very successful relatively big distributed Scrum project that reaches nearly the same productivity pr. man month as smaller co-located Scrum projects. Holmström et al. (2006) show how different agile practices from both XP and Scrum benefit the performance in DSD projects either directly or by reducing the temporal, geographical or socio-cultural distances.

However Ramesh et al. (2006) argue important incompatibilities between DSD and agile methods in how communication challenges, lack of control and trust is handled. This introduces new challenges for organizations that will have to balance these different demands in order to achieve a beneficial distributed and agile practice.

It is evident that some firms have succeeded in using agile systems development methods for DSD despite the theoretically build in contradictions, but we are far from understanding when how and why this is possible. In order to contribute to this understanding of balanced distributed agile practice, we have studied two agile DSD teams that belong to the same organization, but organize themselves and their collaboration very differently.

Since trust is crucial to the corporate behavior that can lead to success of projects, especially in distributed teams (Greenberg et al. 2007), we have focused on exactly that aspect
of the challenges in balancing distributed and agile practices. The case enables us the study role and management of trust (and distrust) in different agile DSD practices in order to answer the research question “How can building and sustaining trust through agile practices ease the challenges of DSD?” We do so by analyzing how trust between team members developed and eroded through the lifetime of the two team collaborations and how management actions influenced this. We then discuss the two trust profiles for the teams to display important aspects and bring out how management action can be used deliberately in order to build trust and achieve the benefits in a beneficial distributed and agile practice.

2 Developing trust in virtual teams

In teamwork members are dependent of each others to achieve a shared goal. If a team member does not live up to the expected, takes advantage of the rest or otherwise can not be trusted, this dependence may have negative consequences for the other individuals in the team as well as the team in general. When teams are distributed and to a large extent relying on communication through different media this risk is more evident and the level of trust needed to run the risk, is hard to build and sustain (Greenberg et al. 2007).

McKnight et al. (1998) defines trust to be “an intention or willingness to depend on another party”. Trust influences the attitude and behaviour of team members directly or indirectly by moderating their interpretations of past or present actions and their assessments of the other parties’ future behaviour. Thereby it reduces uncertainty between team members and enables productive activity. Trust is believed in the IS literature to influence corporation and performance of teams (Greenberg et al. 2007, Staples and Webster 2008, Rai et al. 2009).

Trust is often seen as being built through a history of successful interactions. Both informal and task-related activities contribute in creating a feeling of familiarity and trust between team members. Development of trust relies on team members’ continuous assessments of other team members’ integrity, ability and benevolence. However this is difficult in DSD since face-to-face meetings are rare and communication is mediated through tools.

Greenberg et al. (Greenberg et al. 2007) have studied when in the lifetime of a team collaboration which kinds of trust can develop and the management actions needed to support this development. The development of trust types through five stages of a team collaboration is illustrated in figure 1. Until the transition phase the team is focused on getting organised, making agreements and understanding the task. During the transition phase the team members become ready to dedicate their focus to the actual work that is the core focus of the accomplishing phase.

The authors describe trust as either being cognitive trust, relying on rational assessments of the other party’s integrity and ability, or affective trust based on emotional ties resulting from assessment of the other party’s benevolence (Greenberg et al. 2007).

Research shows that newly established teams in their out set often carry high levels of trust in team mates. This dispositional trust (team members’ predisposition to trust) is important as this is the strongest possible outset for developing trust in a team. In the inception phase the team is likely to experience swift trust as expectations of trustworthiness often is grounded in information from external sources or on experiences from the very first interactions. Swift trust is vulnerable and thus need to be strengthened and transformed into cognitive trust through deliberate early management actions not to evaporate. Managing actions should in this and in the organizing phase support team members in making their own trustworthiness visible and in early assessments of ability and integrity of their team mates. The team reaches
the transition phase when they have established norms for behaviour and communication and is ready to focus on the work tasks. At this time the interpersonal knowledge and bonds are strong enough to allow for assessments of team mates’ benevolence and integrity and thus for building affective trust along side the cognitive trust.

![Diagram of team development phases]

Figure 1: Mapping the development of trust through the phases of a team's lifetime. Based on Greenberg (2007) p. 328.

Through all stages of the lifetime of the team collaboration it is important for managers and team leaders to “guide members toward behaviour that demonstrates their trustworthiness to other members and that positively influences their trust assessments” (Greenberg et al. 2007). Especially it is important to support the development of dispositional trust and the stabilisation of the early swift trust.

3 Research method

This study is a holistic multiple case study (Yin 2009). We have studied two agile DSD teams that belong to the same middle-sized software organization, but organize themselves and their collaboration very differently. This kind of study provides rich data that allows us to discuss the research question based on two very different but comparable in depth cases.

As figure 2 shows, both teams were distributed with one group of team members onshore and one group offshore (India). Team one was organized as one integrated scrum team having the product owner and the scrum master situated onshore. Team two had formed a sub-team in each location and their work was coordinated by a coordinator and the product owner both situated onshore. The two teams did not interact and hardly knew of each others existence, since they were situated in different locations.

The data collection was carried out in two iterations. The aim of the first iteration was to get a first impression of the development organization and of the daily work and challenges of its DSD. The iteration included an introductory interview with the outsourcing portfolio manager to understand the usual outsourcing arrangements and his concerns for the distributed teams’ work. We also performed an interview with the project manager responsible for the introduction of agile processes in the development organization to understand these change processes. Furthermore we spend a day with team one: observing a daily scrum, holding a meeting with the onshore team members, being introduced to and allowed to use the communication and collaboration tools of the team (video conference and tele-presence) when interviewing two of the offshore team members.
In the second iteration 8 semi-structured interviews were carried out as indicated in figure 2, covering both on- and offshore team members and management in each team. The interview guides were based on our understanding of the challenges in agile DSD (Ramesh et al. 2006). All interviews were transcribed. The interview data was supplemented by observations of meetings in both teams and documentary data from both project archives.

Analyzing the data was supported by development of data matrixes and iteratively sharpening our focus of analysis to understand the development of trust and distrust in the two teams during their collaborations. First we mapped data on to a broad range of topics (trust, status, communication, challenges, control, knowledge sharing, agile/Scrum, culture, and miscellaneous) all covered by our interview guides. Then we developed a more detailed data matrix on the most apparent topics in the data: trust, control and communication (in line with (Ramesh et al. 2006)). The final analysis and interpretation rest on this data matrix and was guided by the framework of building trust through a teams collaboration presented in section 2 (Greenberg et al. 2007). In turn data from each team was analyzed collecting evidence of trust and trust building in each phase of the team lifecycle. Based on the findings through the phases we mapped a trust profile of each team and the management actions contributing and we discuss the role and management of trust in team collaboration in balanced agile DSD practice.
4 Analysis and Findings

Even though the analysis was done for each team separately we have chosen to present the findings to ease comparison between the two teams. Table 1 provides an overview for each team characterizing how their trust profiles (levels and types) developed over the fives phases of the team collaboration, and what influenced that development.

4.1 Analysis of team one: deliberately building and sustaining trust

In the planning phase team one was carefully organized and intentionally staffed to become an integrated scrum team in the meaning of Jeff Sutherland et al. (2007). During staffing, competences and skills of the team members were explicitly evaluated and appropriate team roles were assigned. The possible language problems were part of this process, but it still took some time of collaboration before the team could communicate fluently. The team member’s awareness of the evaluation-based selection of their team mates sparked their positive judgment and thus enabled development of dispositional trust.

Beginning the inception phase, two of the offshore team members visited to work onshore for three months. In order to rehearse how to collaborate as a virtual team, the team established a little Bangalore office where the two guests worked physically set apart from the onshore team office. This way the team could both meet in person and get acquainted and at the same time practice skills needed in order to work together virtually.

Experimenting with their new virtual agile practices in the uncomplicated setting of little Bangalore confirmed and consolidated the dispositional trust of the team members. The visit from the offshore team members were deliberately planned by management to build trust and create a sense of equality between team members. Also a visit in the home of the product owner and teambuilding activities sharing personal life information was planned to create the milieu for mutual personal support. The offshore visitors expressed a high degree of commitment to the team.

“We were invited to POs’ home, we had dinner. It was actually nice to meet his family. We all made a small presentation about our family, about where we live, our lifestyle – about everything. And we all shared pictures. It gives a feeling of home – there is more dedication to what we do and more attachment”.

Even though this swift trust enabled the team to begin their collaboration right after the return home of the offshore team members, the mediated communication soon became formal and work-focused challenging the level of swift trust.

“It turns into more formal communication. It becomes more professional and much more about the tasks – not so much about ‘and how are your family, by the way?’”, even though we try. It fells so awkward in comparison to when sitting face to face”

When organizing the collaboration (phase three) the daily scrum meetings were crucial. Obviously the control effect, the knowledge sharing and the support provided by the daily scrum was important for work task progress, but the meetings also led to development of cognitive trust through the insight in the other team members’ abilities and integrity gained through the interaction.
| The five phases | Team 1 | Trust profile | Team 2 | Trust "profile"
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Planning</strong> – dispositional trust</td>
<td>Hand pick (evaluate) team members for the task</td>
<td>High level of dispositional trust</td>
<td>Confusion about the team identity (and constellation) Management support onshore team in focusing on delivery</td>
<td>Low level of dispositional trust in the outset</td>
</tr>
<tr>
<td></td>
<td>Establishing a little Bangalore onshore</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Inception</strong> – swift trust</td>
<td>“A feeling of home …” created through personal interaction onshore Distributed communication still tend to be task focused and formal</td>
<td>A good starting point for building Swift trust Through the phase the swift trust in the team was challenged</td>
<td>“We have hardly met them…” “If only they delivered something …”</td>
<td>Low starting point for developing swift trust in the team Unsuccessful in building swift trust in the team</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Organizing</strong> – cognitive trust</td>
<td>Enforcing shared activity through daily scrums and shared practices through a team charter “That is insane …” when not performing</td>
<td>A good starting point for building cognitive trust Cognitive trust in some members of the team is lost</td>
<td>An A and a B team Onshore ignoring the problems Dependence between team parts despite management promise</td>
<td>The building of cognitive trust is challenged Still unsuccessful in building swift trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Transition</strong> – from cognitive to affective trust</td>
<td>Logging impediments Problems with telecommunication</td>
<td>A good starting point for building affective trust The affective trust in the team is challenged</td>
<td>Wide spread communication problems between on- and offshore “ … the heavy backpack ….”</td>
<td>Lack of affective trust</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Execution</strong> – affective trust</td>
<td>Celebrating “at their own expense…” Daily appreciation</td>
<td>Narrow work task focus limiting the sustaining of affective trust Positive sustaining effect on affective trust</td>
<td>Actual deliveries and results is needed</td>
<td>Very limited swift and cognitive trust, which in turn inhibit building affective trust</td>
</tr>
</tbody>
</table>

**Table 1:** Findings supporting the characteristic of the two teams’ trust profiles.
Team one had succeeded in coming to shared understanding and acceptance of the importance of participating in this shared activity. They even developed their own team charter stating the agreed code of conduct and practices of the team. The charter defined the common ground based on which team members could evaluate each other and build cognitive trust. However one team member did not perform in accordance with the other team members’ expectations. We observed this during a planning game, where his estimates were far out of range. This lead to a formal (visible) rather neutral discussion through the virtual media, but it was accompanied with a silent body language communication between the onshore team members of a different nature. Their trust in his abilities had clearly evaporated, but they avoided communicating their distrust because of the virtual media. The distrust (both cognitive and affective) was broadly shared in the team and build through a history of not delivering the expected results or showing the right attitude. In the end management reappointed the team member, and the commonly shared trust in the team was re-established.

The fact that the team in their first sprint delivered less than expected, but already over performed in the second, was explained by the scrum master with the quick team integration and the willingness of team members to share experienced work problems. The team even introduced an impediment log during the transition phase, which we saw as sign of affective trust, since this could only be possible when the team members share responsibility and a positive interest in their team mates’ work.

In the transition towards the execution phase problems with the communications tools surfaced. First the access to mediated face-to-face communication through videoconference and tele-presence was limited due to few and shared facilities, especially offshore. Second the alternative IT-based communication tools such as phone, email and chat often had technical difficulties (e.g. echo or interruptions). This was a challenge to the shared planning and organizing activities in the team and thus also a threat towards the sustainability of the affective and cognitive trust of the team.

In summary, starting the execution phase, team one had succeeded in building a strong basis of cognitive and affective trust. They had formed a shared working culture with a strong focus on performing and delivery, which to some extend kept them from spending time on celebrating achievements or other act to sustain the trust level. If they celebrated through sharing cake or candy, it was at their own expense. The team members were aware of the risk in not taking the opportunities for team building and were instead careful to appreciate each others work through the daily interactions.

4.2 Analysis of team two: Ignoring problems and avoiding action

The origin of team two was messy as the team was first established as one onshore team that soon (four months) was extended with offshore colleagues by word of management. At this time the original team was well into the execution phase and they feared that the extra workload from having to guide the new team members would inhibit delivering results on time. Their complaints displayed low level of dispositional trust and forming a real integrated Scrum team (Jeff Sutherland et al. 2007) was ditched through the planning phase of the reorganized team. Instead team two was organized as a kind of scrums of scrums (Jeff Sutherland et al. 2007) where the offshore team was supervised by the product owner and all necessary communication was going a single point of contact: the onshore coordinator.
Through our interviews with the team members they revealed confusion about their team identity; whether they were one or two teams, even though the team was formally one team. A confusion of this kind is a difficult starting point for trust building.

Through the inception the reorganized team had a few brief tele-presence kick-off meetings as an introduction to each other and the frames of project. The on- and offshore team members have never met face-to-face and the kick-off meetings was way to brief as a basis for evaluating team mates skills and abilities in order to build swift trust.

In the planning phase management promised that the new offshore sub team would become a great help for the onshore sub team, not demanding any extra effort.

“So management considered the resistance against the introduction of four to five new offshore team members and ‘oh! what do we do, the extra work load from guiding and answering questions from them will inhibit our own work…’ – that was the worries of the original team – and decided that the offshore team members should work independently and with their own tasks.”

This promise from management could be an attempt to support building of swift trust in the team through means of external signals. However since it was not given as personal endorsement but in the form of rule and role based information it was unlikely to support a positive evaluation by the team members that could lead to the desired trust building. Instead the onshore team as expected experienced that the offshore team did not deliver the tasks, they were committed to. The onshore team members seemed neither surprised nor upset about it, only expressing the wish that for them “to deliver something…”. This was a clear sign of lack of trust. They simply did not expect their offshore team mates to do as they promise to do. This quickly became a vicious circle of not proving skills and abilities, thus reducing the expectations from the other team members and limiting the possibility of developing cognitive trust. Management had apparently failed to take action to support and motivate to better behavior and better communication, since the distrust from the onshore team was not known in the offshore team.

The failure of building swift trust in the inception phase resulted defacto in an “A” team onshore and a “B” team offshore somewhat lacking working abilities and skills. Complex and strategic tasks were subscribed to the onshore team, while uncomplicated and less important tasks were groomed by the onshore team, before subscribed to the offshore team. Furthermore when selecting tasks for the offshore team, management avoided tasks that could involve help and goodwill from members of the onshore team. They were aware that the necessary affective trust was missing. Everybody onshore realized the problems, but they did not take any actions to change it.

Even though management had tried to introduce independence between the two sub-teams, a lot of guidance and help from the onshore team members, was needed. The promise from management in the outset had proven wrong. Despite the contact between the two sub teams they did not develop any shared working culture or practice. They simply lacked the needed level of swift trust. Again the low level trust in the other sub team was not found in the offshore team, so apparently building trust among the onshore team members should be first priority to increase the team success.

Moving from cognitive trust towards affective and more sustainable trust in the transitions phase demands personal knowledge and social ties between team members. However the onshore members hardly knew the names of their offshore colleagues and even the
communication between the onshore coordinator and the offshore scrum master was strictly formal, short and task focused. One of the onshore team members denote the offshore sub team as a burden and others complain that they would rather have been with out the “help” given to them “from above” (from management).

“The solution could be from the onshore team to show some goodwill and interest in the problems and questions of the offshore team members. But they are viewed as a burden. As a heavy backpack that you have been forced on your back to carry.”

The limited benevolence was now so obvious for the offshore team members that they tried to limit contact. They discussed all problems within their own sub team before utilizing the formal single point of contact. If they had to pose a question by email, they expected long waiting time for the response. Management did not take action to improve the behavior, boost the trust level or encourage change of the communication patterns to something more desirable for both team performance and establishment of trust in the team.

Apparently some of the benevolence problems came from inability to work in English among the middle-aged onshore team members when done through virtual media. Since the same problems were not experienced working with co-located English speaking colleagues, it could also be a problem of lacking virtual communications skills. Greenberg et al. explains that it takes more cognitive effort to communicate through communication tools than face-to-face and thus training to be able to work virtually should be an important part of the planning phase.

Now well into the execution phase for the reorganized team, the team members hardly expected anything from each others across the distribution. The lacking trust hindered contact, slowed communication down and not least inhibited improvements of the situation. Management actions were absent. The onshore Scrum master stated that actual deliveries and results as promised from the offshore team members could be a starting point for building trust among the onshore team members, if informed by trusted management. But they would have to start right from the bottom.

5 Discussion

The differences between the two trust profiles are evident and management actions play an important role in the development of these trust profiles.

Greenberg et al. (2007) emphasis the importance of meticulousness from management in establishing the team. They highlight the management actions of careful choice of team members based on evaluation of both ability and attitude, of providing training in virtual collaboration and of establishing a corporate award structure.

As described above team one was purposefully and openly staffed and intentionally established, which ensured the team members of the ability of their coming team mates. This way management ensured widespread dispositional trust and provided grounds for swift trust. The origin of team two goes back before the study. The onshore team was already in the execution phase, when they had to reestablish. This haphazard attitude from management towards creating effective working teams, of course gave rise to (dispositional) distrust and confusion. In accepting the initial complaints without any attempt to create dispositional trust, management laid the tracks for a trustless collaboration. Without dispositional trust from team members it is very difficult to develop trust in the later stages.
During the inception management actions need to support initiation and stabiliztion of swift trust through providing information about team members as a basis for their mutual (positive) expectations. Team managers should arrange team building exercises to help team members’ early assessments of other team mates’ abilities and attitudes (Greenberg et al. 2007).

In the inception phase team one carried out extensive teambuilding activities, building bonds of cohesion, and the guests even got a “feeling of home”. The team worked as a self organizing team as advised in Scrum, also when it came to the managing their own trust building. The team experienced that it was difficult to sustain the social bonds through mediated communication despite extensive teambuilding.

The teambuilding in team two was limited to a few half-hearted tele-presence kickoff meetings decided by team management and not resulting in any bonding. The onshore team even hardly knew the names of their offshore colleagues. Getting started in the team and on the work tasks clearly was difficult for the offshore sub-team and their inabilities shown through lacking deliveries through the inception phase just confirmed and increased level of distrust from the onshore sub-team.

In the organizing phase the team still faces uncertainty about that task, about their organization and about each other. Management needs to urge participation of all in the organizing activities to provide the basis for team members’ cognitive assessments of their team mates’ abilities and integrity. They have to actively encourage and affirm both the team and individual members to engage and build cohesion. Through the organization phase communication patterns are established and management should monitor, evaluate and provide feedback of the individual patterns in order to build appropriate communication. As part of this they should encourage non-task related communication as a basis for developing affective trust (Greenberg et al. 2007).

The daily Scrum meeting, as started in the organizing phase in team one, both facilitated development of a shared understanding and team practice, and provided the necessary insight in each others work as a basis for developing cognitive trust. The self organizing team also took responsibility for enforcing participation and for individual feedback and guidance as displayed in their team charter. However one team member did not react to the mutual pressure and the team had to ask for management support to solve the problem.

In team two the effect of management overseeing or ignoring the problems became evident in the daily practices that formed. The status differences between the two team parts and the lacking trust among the onshore team created ineffective and insufficient communication and collaboration. Most involved were discontent, but neither management, team management or team members took action.

By the transition phase appropriate corporate behavior should be established and management actions should primarily support the change in main focus towards the work goals. Team members have developed relationships on which affective trust can be based and the assessments of team mates’ benevolence become important (Greenberg et al. 2007).

The impediment log and its use by team one showed that they have reached the level of trust where they share their difficulties openly and even in writing. We see that as sign of ability to build and sustain affective trust. The problems with the tele-communications that in other team could stop trust building only caused a minor disturbance. In contraire team two experience all the classic problems of communication in DSD; delay, neglect, and technical problems, which limited the contact to rare and single point contact. This leaves no grounds
for building any kind of trust and especially not affective trust. Management was absent and ignoring the problems.

In the accomplishing phase the achieved (affective) trust is tested under the pressure of deadlines and performance requirements. This is when this trust is needed to ease the problems of DSD and help the team overcome misunderstandings, practical obstacles and disagreements. Since team members are inter-dependent, sustaining trust demands team mates’ benevolence and positive integrity. Management should support the sustenance of trust by helping team members to keep focusing on the distributed work, by evaluating also corporate performance and communication and by encouraging supportive communication and celebration of achieved goals (Greenberg et al. 2007).

In the execution phase team one was so focused on being productive, that they tended to forget to sustain their mutual trust. However the transparency of their work e.g. through their daily Scrum meetings and the impediment log, provided the information needed for their continued assessments of each others and they did remember to appreciate the others efforts.

In team two DSD was troublesome, agile or not. The only hope for development of trust was that the offshore team members on their own could demonstrate their trustworthiness by proving their working abilities through delivery. However unlikely that would be, since the conditions needed for learning and increasing performance was not provided to the offshore team. Management was still not focusing on the team problems.

Prior research has shown that “trust is critical for cooperate behavior that leads to success of all teams” (Greenberg et al. 2007) especially in distributed teams. However developing this trust in distributed settings where most communication is mediated through electronic tools, are even more difficult and demands deliberate targeted management action. This case show two very different trust profiles and not least two very different management ways of handling the trust building.

We draw lessons from the study in two steps. First we find aspects of agile practices such as the idea of self organizing team and the daily scrum that empowers the team members in team one to take collective responsibility not only for the work tasks but also for building and sustaining the trust of the team members. The practices provide the necessary insight in the other team members’ integrity, ability and benevolence and provide means for negotiating shared understandings and norms. This in turn helps ease the classic challenges of DSD such as technical problems with tools, misunderstandings in communication e.g. due to lack of awareness of the others’ context and incompatibilities in tools, working practices and corporate culture. Apparently organizing distributed work in accordance with agile ideas holds the promise of overcoming temporal, geographical and socio-cultural distance through the close personal trust-based ties within the team.

Second we find that deliberate management actions for building trust in a team is mandatory in order to be able to establish a balanced agile DSD practice. Working distributed following the agile methodologies demands trust, since many of the traditional control mechanisms are missing. The benefits of agility rest on shared responsibility, corporate behavior and willingness to contribute to a shared team goal and this kind of behavior is only possible if the team members trust all their team mates – also the ones they are not co-located with. The case points to deliberate management actions to support the team in developing this trusting working practice as necessary. Team one is an example of a very successful establishment of an agile DSD team, while team two is a case of management neglect and
unwillingness – or inability – to provide the necessary frames, evaluations and feedback to nurse trust back across the team.

Based on our understanding developed through this case study, we advice management to support a balanced agile DSD practice by intentionally and openly establish and staff agile DSD teams to ensure dispositional trust, by supporting and insisting on trust building in their inception phase and by monitoring, evaluating and possibly giving feedback in the teams’ organizing phase in order to develop feasible interaction patterns. Details on how to do this can be extracted from the practice of team one in the case study, but other means can prove useful also. For the team to develop into a truly self organizing team providing the virtues of that, managements’ role should preferably only be supportive and insisting on trust building, while the team itself will have to get organized. This could emphasis the importance of including organizing skills in the team when staffing and providing the support of espoused best practices developed in the organization. On the other hand management should be urged to act as soon as possible, if the team does not develop feasible practice. If lack of trust had developed into distrust it is very difficult to change.

6 Conclusion

The article reports from a study of trust in two very different agile DSD team through the five phases of their team collaborations. We have analyzed how trust between team members developed and erode through the lifetime of the two collaborations and how management actions influenced this. We have discussed the two team trust profiles to display important aspects and to bring out how management action – or neglect – influences development of trust in the teams. We see two important and connected lessons from the case study. First the agile practice of daily scrum and self organizing team can empower DSD team to manage their own development of trust in the team and thus ease the classic challenges of DSD. Second a balanced agile DSD practice demands development of trust between team members. This needs to be supported by deliberate management actions. If management fails to support the development of trust in teams – and it does not happen on its own – then it is difficult or impossible for the team to develop a balanced agile DSD practice. We thus advice management 1) to establish and staff agile DSD teams intentionally, 2) to support and insist on trust building during the teams inception phase and 3) to monitor and evaluate the teams organization and to act if non feasible practices are established.

Our planned continuation of this research is to analyze the role of control mechanism in the same cases in order to discuss how trust and control interact and how balancing these in the concrete agile DSD practice can be done beneficially.
References


