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Interaction in Distributed Teams

Technology's possibilities, difficulties and consequences from a sociomaterial Perspective

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Abstract

Distributed teams has received greater attention during last decades due to the high development of technology. Previous studies of distributed teams have paid little attention to the technology's impacts in organisational environment and how this unfolds in practice. This article provides an illustration of how technology, in specific, phones and humans interacts in a virtual context from a sociomaterial perspective. Based on a field study from a telecommunication company, this article investigates technology's possibilities, difficulties and consequences in practice regarding interaction in distributed teams. Our study demonstrates that technology cannot itself take action, it is the enactment of humans and technology that shapes the outcome and plays a key role in the context of virtual work space. We also demonstrate the importance of having interaction with team members even though they are working in a distributed environment with technology as an interaction tool.

Keywords: Sociomateriality, entanglement in practice, intra-action, technology, distributed teams

Introduction

During the last decades, technology advances have evolved faster than ever before and provided the society with greater possibilities (Petrick et al., 1999). One emerging phenomenon of technology's development is the possibility to have geographically distributed team's which has received greater attention in recent years (DeSanctis & Monge, 1998; Daim et al., 2011; Anderson et al., 2007). The advancement of new communication technologies in organisations have impacted this rapidly spreading business practice and have created a substantial interest in this emerging phenomenon (Puranova & Bono, 2009). Tools such as video conferences, phones, email, and internet makes it possible for people to work in teams from any place around the world (Navarro et al., 2010), and this way of working has become an everyday reality for most employees in global organisations. Technology creates many possibilities and contributes to employee's flexibility by allowing them to work from anywhere at any time (Potter et al., 2000). Furthermore, a study conducted by Kankanhalli et al. (2007) shows that distributed

teams consists of less personal conflicts than ordinary workplaces, which is argued to be beneficial for companies since they do not have to invest as much resources in conflict resolutions (Mortenson & Hinds, 2001).

Although distributed teams provide international companies with flexibility, scholars argue that they do not have the ability to create the same quality of work compared to a face-to-face setting. Therefore, distributed teams might face challenges of building effective interpersonal relationships between team members (Daim et al., 2011; De Meyer, 1991; Dundies & Benson, 2003; Nohria and Eccles, 1992; Olson & Olson, 2000; Puranova & Bono, 2009). It is claimed that the use of technology-mediated communication could lead to misunderstandings (Biesenbach-Lucas, 2007; Glater, 2006) which in turn could erode team productivity (Kirkman et al., 2002; Shin, 2004). One major obstacle when using technology communication is the absence of personal interaction and the lack of facial expressions as well as body language that are lost through this type of communication (Peters & Manz, 2007). In a study conducted by Maznevski and Chudoba (2000) it was found that a team's performance increased if they had met face-to-face in an early stage of the formation. Also, a deeper relationship with team members might generate an increased level of collaboration and thus, making it easier to form a shared understanding (Peters & Manz, 2007). However, in spite of this scholars argue about the drawbacks regarding communication at distance, Arnfalk (2013) shows that virtual communication has increased every year from the 90's and forward. This is because companies benefit of working in a global environment where cost-saving is possible due to the technology (Driskell et al., 2003). Even though technology influence distributed teams in many negative ways such as performance, trust and communication (Puranova & Bono, 2009), technology is needed when working in global organisations.

A selection of previous studies about distributed teams shows that researchers in this area often investigates how to lead and manage, how to create trust among members and the performance of teams in such settings (Cheshin et al., 2013; Bassanino et al., 2014; Boies et al., 2015; Giuffrida & Dittrich, 2015; Rapp et al., 2016). Hence, a substantial number of studies have investigated how teams perform when communicating through technology (Cramton, 2002; Hinds & Bailey, 2003), few of the selected studies are investigating the interactions and the relationship between distributed team members (Navarro et al., 2010). For example, Potter and Balthazards (2002) found that technological tools used in virtual teams affect the outcome of processes. One concern regarding studies of distributed teams is how technology influence interaction, response and personal relationships and researchers urge for more studies targeting these factors (Jarvenpaa et al., 1998; Potter & Balthazard, 2002; Kirkman et al., 2004).

Despite the increased attention distributed teams has received in recent years, the importance of the technology's impact has not been fully addressed (Orlikowski & Scott, 2008). Orlikowski and Scott (2008) conducted a study where they showed that 95 per cent of the articles published in leading management journals did not consider the impact the technology had on organisations daily life. As a consequence, they introduced the so called umbrella term of sociomateriality which explains a perspective where all the material and social actors should be treated as inseparable. Scholars have further used this term in order to highlight the importance of materiality in all social practices (Styhre, 2011) and that both the social and the material should be of equal importance (Leonardi, 2013).

Studies with a sociomaterial perspective often have a concern for how material objects and social factors are enacted in practice (Orlikowski & Scott, 2008; Oborn et al., 2013; Symon & Pritchard, 2014). A study by Wajcman and Rose (2011) regarding interruptions at work, highlights the importance of seeing the relationship of communication technology and the interruption as equally treated. Further, Styhre (2011) explained that new materiality could shape and create new routines for how to organise and structure work and exemplify by using a tool such as an electric screwdriver. The screws and the screwdriver are useless without humans since the material are not capable by itself to accomplish something, it is the sociomaterial action of the human and the screwdriver together that shapes the work. Previous research regarding the importance of the material often neglects the impact of technology in practice, therefore scholars emphasise a need for more research within this area (Orlikowski & Scott, 2008; Tanggaard, 2012; Pritchard & Symon, 2014).

Orlikowski (2007) introduced a study of BlackBerry's impact in organisations everyday life and further imply the importance to reconfigure the taken-for-granted assumptions of technology. Wajcman and Rose (2011) stress for more studies concerning people's emotional experience of the choices they have in relation to their use of communication technologies and how it could be put into practice. Relating to this, in the context of distributed teams where the work mainly relies upon technology-mediated communication, it is of substantial importance to take both the material and the social into consideration.

In a setting where technology such as phones, computers and email are a necessity in a social environment it becomes important to see this as parts of everyday practice. With this as a starting point, our aim with this article is to analyse how the materiality is inseparable with the social, in this case, phones, computers and the team members from different parts of the world. In order to reach this aim, our research question is: what difficulties, possibilities and consequences does technology have when it comes to interaction and relationships among members of two distributed teams?

This article is structured as followed: first a theoretical framework of sociomateriality describing relevant concepts is given. Secondly, a description of the methods used to conduct and analyse the study is provided. Thereafter, as a third step, our findings in combination with analysis will be presented. Lastly, the findings are discussed in the light of the theoretical framework, followed by a conclusion were further implications also are addressed

Sociomateriality – Seeing the separable as inseparable

The theoretical framework is structured as following, first an introduction to sociomateriality will be presented. Secondly, the most important concepts from the body of research will be accounted for; these concepts will contribute to the analysis.

The issues with technology have always acted as a source of concern according to organisational theorists, however it has been viewed as a key function in contemporary organisations (Zetterqvist et al., 2009). It is notable that technology shapes organisations in several ways, for example when a new tool or system is implemented this often affects the social relations in practice between employees. Technology does not only shape and affect the

daily work, it is also shaped by how it is used (Zetterqvist et al., 2009). Orlikowski (1992) explains how the actors in a given context construct the technology both physically and socially through different meanings and various features they use. Going further, Orlikowski and Scott (2008) introduce the umbrella term of sociomateriality, which explains how the combination of technology and humans work in practice. The perspective of sociomateriality allows this article to view technology such as phone and the social as inseparable from each other.

Sociomateriality is a fusion of two words: social and materiality. In a context where the work is mainly based on technology, the sociomaterial perspective provide this article with a view that treats the social and the material as mutually constitutive. The term sociomaterial can be explained as something that is created through social processes with enactments in a context where all social actions are possible because of some materiality (Leonardi, 2012). A common definition of sociomateriality is given by Orlikowski (2007: 1437): "the social and the material are considered to be inextricably related – there is no social that is not also material, and no material that is not also social".

Many organisational processes and activities rely upon technology and material resources and Orlikowski (2007) argues that the literature needs to be developed and further consider the complexity of technology. One part of the sociomaterial theory is entanglement in practice which is referred to the capacity of actions (Orlikowski, 2007). The term entanglement in practice was introduced because scholars found it hard to figure out how to include both humans and technology in practice. It is suggested that, if we give up the view of treating the social and the material as distinct and independent spheres of organisational life a deeper analytical insight could be gained (Orlikowski, 2007). Moving further, the material should therefore not be ignored, taken for granted or be treated as one entity. Rather it should be treated as an integrated part of the organisation, such as in the organising of communication in distributed teams. Consequently, the social and the material are constitutively entangled in everyday life.

To understand the complex concept of entanglement in practice and why it is important for this article an empirical example from Orlikowski (2007) will be introduced. She provides an example of how mobile communication, in specific BlackBerry phones, is sociomateriality configured, which means that employees can work from anywhere since it is possible to send and receive emails at any time. With the possibilities to work at anytime from anywhere the communication changes because the BlackBerry becomes engaged with members and their everyday practices. As explained, the capability the BlackBerry gives has become entangled with employees' choice of responding whenever they want to by sending an email at any point and time during the day. The important part of this case is that emails are constantly sent to handheld devices, which leads to that employees' are available all the time. It is not a matter of the technology interacting with the social, but of constitutive entanglements (Orlikowski, 2007). The BlackBerry example describes how manifestations of organisational practices could become entangled with emerging sociomaterialities which is important in order to understand the complexity of not taken technology and material for granted in a virtual context where distributed teams are working (Orlikowski & Scott, 2008).

Furthermore, the term of materiality re-focus attention to the tools that people works with, meaning that the tools are useless without someone using them. To take this a step

further, the re-focusing allows researchers to not only describe organisational processes, but to generate insight in how to improve them (Leonardi & Rodriguez-Lluesma, 2012). By changing the way we view materiality, the features and functionalities becomes visible when technology is viewed as inseparable from the social settings. To understand what possibilities, difficulties and consequences technology have when it comes to interaction and relationship among members in distributed teams the perspective of entanglement in practice allows this study to view the phones as entangled with the team members which results in a process of mutual shaping.

Sociomaterial researcher often use the term entanglement in order to move forward to the perspective of seeing how social norms and technology together could shape, produce or change organisational action (Leonardi, 2013). A metaphor of entanglement in practice explains that there is no untangling that need to be done, not because untangling is hard but since there is nothing to entangle – the sociomaterial is one thing, not two (Leonardi & Rodriguez-Lluesma, 2012). Translating this into something understandable, one can think of a tightly bound knot from two pieces of rope, there is after the knot only one piece of rope. In addition, Orlikowski and Scott (2008) mention the role of materiality as a component in many practice studies and it has typically been cast in a mediating or supporting role.

However, in contrast Barad (2003 in Orlikowski & Scott, 2014) argues that practice is constituted and inseparably by meanings and materiality, which suggests that a practice can have no meaning or existence without the specific materially that produce it. From this point of view, materiality is understood as a process of materialisation that configures reality. Barad (2003 in Orlikowski & Scott, 2014) focuses specifically on doings and actions and invented the term intra-action to describe the resulting entanglements of matter and meanings that produce the world in practice. This means that it is not possible to separate the role of people and things before analysing the activity and practice (Nyberg, 2009). Intra-action emphasises attention on the particular practice through distinctions and boundaries, e.g. between humans and technology, and how they are produced, stabilised and destabilised (Orlikowski, & Scott, 2014). To reach a broader insight of how the processes of reconfiguration is done over time it is suggested to study the phenomena in practice (Orlikowski & Scott, 2014), which is also in line with the aim of this study.

The notion of intra-action is explained as the co-emerge of human and material agency (Mutch, 2013). In this context, agency is referred to as something that has the ability to act. Furthermore, human and material agency do not pre-exist separately but occur from the relationship of intra-actions (Doolin & McLeod, 2012; Jones, 2014). It is argued that it makes no sense to talk about the social and the material separately, they are different aspects of the same phenomenon and their relationship is not considering from a one-way perspective, but in a relationship of intra-actions (Nyberg, 2009; Jones, 2014). This is also the perspective used in this study of the use of technology in distributed teams.

Actors could be seen as an outcome of sociomaterial intra-actions, meaning that a move from inter-actions to intra-actions suggests that boundaries that define actors are fluid and temporal (Nyberg, 2009). A move from inter-action to intra-action is required since inter-actions undertake the perspective of analysing both the social and the material in a context, but from a human-centric view. Therefore, the move to intra-action shows that there should be no

difference between object and subject or objects and other objects. A given example from Barad (2003 in Jones, 2014) explains that there are no clear boundaries between a coffee mug and the hand that holds it. In the view of intra-action, the relationship is built when the hand is using the computer mouse, since they are then co-emerged and without each other they would not pre-exist separately.

In a setting where the context is based on virtual communication, such as in distributed teams, the concept of intra-action highlights the importance of seeing the social and the material as a relationship. An example of intra-action in a virtual workspace is given by Nyberg (2009) who investigates the intra-actions in call centres. By explaining that after only a few seconds into the call in the call centre a number of actors had become intra-acted. First a computer system that redirected the call to the employee working at the call centre, and then a computer screen telling the time, a phone that connects the employee to the customer and a desk providing space for activities. In practice, all these mentioned actors are emerged in relation to each other and it is not possible to trace the activities to one single actor (Jones, 2014). Something that is common in the workplaces is when people use the keyboard, the keys becomes a part of the fingers entering the information, the computer screen loses all its material distinctions and we can only see the text or the picture. The computer mouse becomes a part of our hand and when talking to someone on the phone their voices is in your ear without any notion of material separation, instead they are built on relationships (Nyberg, 2009).

By using the sociomaterial perspective of intra-action in this article, we assume that all actors appear in relationships that is further transformed into something else. Through practical intra-action, several actors are emerging with constantly shifting boundaries (Jones, 2014). To understand that an object cannot be separated from its materiality, it is important to consider that the process of attributing meaning to artefacts is tied up with their materiality (Barad, 2003 in Nyberg, 2009). The roles of people and things at the workplace cannot be separated before analysing activities and practices (Jones, 2014). Therefore, the analysis in this study will move from a world of representations to a view of actions and doings.

In summary then, the main concepts used in the theoretical framework of this research study will mainly focus upon entanglement in practice, since this enables the study to view human and material agency as constitutively entangled and thus, contributing to an understanding of seeing technology and the social as inseparable. The term intra-action is also used in order to highlight the boundaries and properties of certain actors. By focusing on the entanglement and intra-action of things and people in co-alignment of technology and the social, this will further give a sociomaterial perspective of how technology impacts and unfolds in a virtual context, which is in line with the aim of this study.

Methodology

The methodology is structured as following: firstly, an introduction to the design of this study where the choice of method is discussed. Secondly, we will provide a description of how the field material was collected and lastly, a review of how we analysed the collected field material will be given.

Design of the study

This study aims to provide an in-depth analysis and understanding of the phenomenon concerning technology's possibilities, difficulties and consequences regarding interaction through technology in distributed teams at TeleCom MNC (Multinational Corporation). A qualitative method was adopted since it provides an understanding of *how* a specific phenomenon is viewed and investigates *what* they do in practice (Silverman, 2013), which was useful for this research in order to dig deeper into how the possibilities, difficulties and consequences of interactions and relationships unfolds in distributed teams through technology. Moreover, a progressive form of understanding was achieved due to our placement in the studied context (Flyvbjerg, 2006), which contributed to an insight of the two teams interactions and relationships in their environment. By studying two teams the empirical findings were supported in one specific organisation and thus gave us a deeper understanding of the technology's impact and how this unfolds in practice. TeleCom MNC was selected as a case organisation since they are an international organisation with a developed virtual environment where distributed teams are highly common. Additionally, pseudonyms names were used in this research to preserve anonymity and provide the reader with an objective view (Silverman, 2013).

Collection of field material

The collection of field material was gathered from two distributed teams within the organisation TeleCom MNC; Cloudy and Sunny, mainly because this gave us the possibility to gain a better insight and understanding of how interactions and relationships takes place in practice. Our data collection period lasted for four weeks and consisted of both observations and interviews, which all took place at TeleCom MNC's office to gain an understanding of how the climate and environment worked out in practice. The primary data was collected through observations, mainly because it is suggested that it leads to different kinds of knowledge and an understanding of how it works out in practice (Van Maanen, 2011). The observed meetings consisted of 12 phone conferences (See table 1) which all lasted for around 55-70 minutes with 4-7 participant at each meeting. By observing the phone conferences, it provided us with a better understanding of how the teams interacted and what kind of relationship the members had.

Site	# of observations	Type of positions	# of interviews
Sunny	5	Project Manager	2
		Employees	1
Cloudy	7	Project manager	1
		Employees	1
		Solution Architects	2
Total	12		7

Table 1. Showing information about the data collection

After 7 observed meetings we started to see repetitive behaviours of how the interactions and relationships worked out in practice. However, we continued to observe another 5 meetings in order to get a more valid research result. Before the observations took place, the teams were informed by the project managers that we were attending to observe how distributed teams worked with interaction, behaviour and relationships through technology. We were furthermore provided with internal documents that consisted of both teams' documentation which aimed to give an understanding of what the teams did and thus, it gave us valuable information of the teams working task. We got the opportunity to follow an email conversation for three days in both the teams, which enriched us with a deeper understanding of the working climate in distributed teams. The documentations and the email conversations gave us an overview and helped us to find suitable subjects to focus on while observing. During the observations, we took short notes about how the interactions were, what response was given, the body language that was invisible for the team members at the other sites, the relationships between the members and lastly the technology's impact of these aforementioned factors. Instantly after the observations, we expanded our notes in order to remember what was said and done and also, what impression the observations gave us.

Additionally, we conducted interviews as a complement to the observations and the findings from the internal documents. The interviews were done with the use of semi structured and open-ended questions, since it generated personal thoughts from the team members (Kvale, 2006). Our contact person selected proper respondents from both teams and we had 7 interviews in total (see table 1). All the interviews lasted for around 45-60 minutes and made it possible for us to gain a deeper understanding of how the employees and the project managers perceived the interaction, response and relationships in their teams. Some notes were taken during the interviews, however, the focus relied upon listening and trying to understand the interviewed person's perspective to capture the most important points. We were well aware about the risk of becoming subjective when listening to the employees' interviews, something that we took into consideration when the interviews were interpreted (Czarniawska, 2014). All interviews were recorded and transcribed. The combination of observations, documents and interviews were found suitable to provide a powerful collection of data to discover information and to complete the strengths and weaknesses of each method on its own (Conger, 1998). The use of multiple data sources provided valuable information to this study concerning possibilities, difficulties and consequences regarding interaction in distributed teams.

Analysis of Field Material

The data collection was divided in stages, therefore we found it appropriate to use grounded theory in order to make a comparative analysis while analysing the material (Glaser and Strauss, 1967). This theory enables a categorisation of the collected data into different themes by using the data from the observations that were first coded and then categorised into concept cards. As a second step, the interviews were transcribed and cross-checked with the observations concept cards. Approximately 25 concepts were identified that included a wide range of different themes such as distributed teams' performance, the role of technology and the project manager's impact. Before we decided which categories that would be most suitable, we processed our notes from the observations and interviews in order to summarize this into key concepts we found valuable in order to answer our research question. The three key points found were; how

the project leaders impacted the team's outcome, the difficulties of communicating through technology and personal relations between team members. However, after processing these categories we discovered that these themes were too broad and therefore we re-categorisation them. During the re-categorisation, we tried to connect the theoretical framework in order to discover appropriate categories and after a careful consideration from the second order coding we found three relevant themes: the technology's impact of possibilities, difficulties and consequences regarding interactions in distributed teams.

Findings

The Setting: Introduction of TeleCom MNC

In order to provide a greater understanding for the reader, an introduction of the studied company TeleCom MNC will be given. TeleCom MNC is a multinational corporation that has changed focus from mechanical to electrical switchboards, electronics solutions and now mobile systems. Today TeleCom MNC sees themselves as a world leader when it comes to digital communication and technology, more precisely the company focus on software and services to enable transformation in mobility and its development.

One kind of change that impacts the daily work inside the organisation is, when new competitors take market shares, TeleCom MNC therefore aims to decrease the margins on their projects and instead work with larger customers to survive in the more competitive industry. Secondly, the complex products and services that TeleCom MNC develop, constantly goes through technology shifts and needs to be updated to remain attractive on the market. Ongoing projects in the organisation can therefore change completely, adjust or restart from the beginning when new technology innovations are launched.

To handle those changes, the communication routines in the organisation are taking place over phone conferences between international sites. It is believed to have improved the product cycle time, travel cost and as one of the project members argued that without technology and virtual communication TeleCom MNC could not have become as large. However, since the technology develops, the communication at TeleCom MNC needs to be continuously updated and optimized. For those working in distributed teams at TeleCom MNC, interaction is seen as one of the most important parts in order to reach organisational success according to two of the projects managers. Even if the purpose of using technology in the organisation is to solve problems of geographical distances and increase interaction and share information between the sites, the idea is questioned from one of the project managers for Sunny: Why are there so many misunderstandings and delays in the projects? The communicational change at TeleCom MNC might not only predict that the technology should solve problems and enable new organisational structure, but the reality might also find complicated aspect with the use of technology.

The project teams: Sunny and Cloudy

This study focuses on two distributed teams, Sunny and Cloudy, in which both are using phone conferences to interact since the teams are distributed on a global scale. The teams work within different areas, have different goals and have adopted diverse techniques for interacting within the team´s. Cloudy had worked for four years at the time, they had long term targets and

objectives and could therefore be categorised as a more static group. The team worked within R&D and therefore had to roll with ongoing changes taking place in the department daily. The seven different sites within Cloudy were placed mostly within Europe, but also in Canada and Asia and had one to five members on each office or as the company calls it, site. Cloudy communicated with the whole team through weekly phone conferences, at those meetings the project manager, also called the moderator, was in charge. During the conference, each site had a short weekly presentation to update the rest of the team what their site had done. Seven members of the total team in Cloudy were solution architects (hereafter referred as SA) which also had an additional weekly phone conference meeting, with the purpose to share knowledge with each other, since they worked within the same area. Most of the 27 members in team Cloudy had never meet the other members in the team that were located at the other sites.

Sunny on the other hand, was about twice the size of Cloudy with around 48 members. The team had short term goals with intensive and varying workloads over periods. The members in Sunny were experts within different areas and were therefore usually just present during the time their expertise were of importance for the project. Before each project at Sunny started, they had a get together meeting, often in form of a dinner. The purpose of the get together was to increase the team feeling among the members and create a personal relation with each other. When the study took place, Sunny was present in Pakistan to launch a project with members coming in from many different countries. Most of the time, the team did work from their home country and communicated with each other through phone conferences. However, the team also travelled to meet up with each other a few times a year. In Sunny, each person did not present the work for the others in the same way as Cloudy, instead it was more of one-way communication from the moderator.

The next section will focus on the three categories in this study, firstly the possibilities technology creates for the team member regarding response. Secondly, the difficulties that technology may create such as interruptions in the connectivity and how that influenced the team's interaction. Lastly, the outcomes of these two categories shapes the third categories that covers the consequences of how relations are influenced of the possibilities and difficulties that comes with the technology.

The possibilities during phone conference meetings

This section will discuss the possibilities technology have in the project teams Cloudy and Sunny and how it influences the response during their phone conference meetings.

During Cloudy's weekly meetings each team member had a responsibility to present an update with the week's accomplishments to the rest of the group. This was done through a standardised template that everyone had access to, through the shared screen. During the meetings it was almost no interactions among the sites, since the technology made it possible for the employees to use the mute button, which resulted in that comments and questions stayed within the sites. The rest of the team was therefore left unaware of the internal conversations and could not receive the response from the rest of the team's internal comments. The situation was observed and understood accordingly:

> An employee from the other site is informing the rest of the team about what he has worked on during the week. An employee in the room is making sure the mute button is on, before the person asks the

> manager in the room with an upset voice; "what is going on with that employee, the person is not working in the direction we decided upon". (Employee, Cloudy)

In the situation explained above, the phones made it possible to exclude people without their knowledge, resulting in internal conversations, because the other sites neither can hear or see when the mute button is used. Since the conversation was unknown for the employee they talked about, any form of response was possible. The only form of response the person presented received, was from the manager who told him to contact another person in the team. When the team members used the mute button it demonstrates the difficulties of having responses from other sites and it causes confusions and misunderstandings which in turn leads to irritation between the members. An echoing observation from another weekly meeting in Cloudy also demonstrate the considerable role the technology played in the communication when some people could use sign language to communicate their feelings, which others could not take part of and therefore missed out on the colleague's response. An observation when an employee placed in another country presented an update followed:

> The employee holding in the weekly presentation part is not giving much information and says that "I do not have much at all to say or update you about, I work a lot with internal projects at the moment". In the room, people are rolling their eyes with each other and shaking heads. (Observation, Cloudy)

In this empirical example it is evident that non-verbal expressions like signs and gestures were of importance since that are forms of response, which only were provided and shared among the people in the room. Important in this situation was that response were taking place, but it did not include the whole team. The people who were present physically with each other had one kind of response going on that left the rest of the team sitting on other sites unaware. This example shows how the mute button makes it is possible to have multiple communications at the same time within Cloudy, when the employees wish.

The SA's within Cloudy also had their own meetings which were characterised by having one person holding in the meeting one week and another the next in order to teach each other about their expertise. The objective with those meetings were to share knowledge and exchange ideas. When the members do not have the possibility to see each other through technological tools such as phones, signs and gestures which would represent non-verbal response is not either taking place, which resulted in a decrease in the interactions. As an SA member in the firm noted:

> "I really like those meetings, we all learn a lot from them! But it is very weird not be given any form of response from the others when talking for 30 min. When I present it, it feels like I am talking to myself, but I am getting used to it, if no one says anything I assume everyone is there and agree. I have to make my own assumptions and I usually assume that they agree if no one says anything else". (Solution Architect, Cloudy)

The situation explained above shows how the one-way conversation has become a norm during the meetings within Cloudy, which resulted in limited response in the team. An SA employee within Cloudy explained how tough it is to not get any response while presenting and it is hard to not know if the information needs to be adjusted, skipped or repeated.

The other team Sunny did not have much response at all. As noticed, the members called in individually from their own phones and not from a site, therefore no internal and hardly any external response took place. An employee within Sunny elaborated on the situation with the flexibility the technology created for the employees within the team:

> "It is not much response during the meetings, everyone is calling in for the meetings and press the mute button. The team members are often in the car, leaving their kids at school or sitting in a noisy area." (Employee, Sunny)

In the above example, it becomes clear that the technology together with the employees played a role in how the response took place. The findings show that the mute button made it possible to multitask, resulting in lack of response during the meetings since members use the flexibility to surround themselves in noisy areas. When the mute button was used and the members multitasked, the meetings consist of the moderator having a one-way conversation with no or very limited response.

In sum, when studying the way responses were given during conferences within the teams we found that phones are an important part of how the communication contributes to different possibilities between the members in both teams. The members are using the phone's mute button to take advantage of their own interest by multitasking during meetings in Sunny or by having internal conversations as in the case in Cloudy. The different interests were thereby influenced since the moderator lacked response and engagement when employees explored the technology at work. The phone conferences made it possible for the team members to on the one hand use expressions and sign language, which were invisible for other sites. On the other hand, the usage of phones made it possible to call in from anywhere without anyone knowing what the members were doing during the meetings. If the employees would not have used the mute button the situation would have played out differently since multitasking and side conversations that excluded people from the interaction would not have been possible. This section has demonstrated the possibilities team members received when using the mute button, however when using technology difficulties could also be found.

Difficulties with the technology

This section focuses upon the different ways technology needs to be used in order to fit the context. The following examples will show that the technology needs to work, in order for the teams to function effectively, since it is through the technology the members interact and communicate. Sunny has tackled difficulties when the technology did not work as wished, especially when communicating with Pakistan. The internet connection is often faced with disruptions and have a tendency to disconnect multiple times during a call. However, it is up to the members to form the technology and manage the desired effect the team wish to seek. Therefore, the employees needed to reconfigure the way the technology was used when communicating with Pakistan. A project manager reflects upon how they previously had worked when they interacted with a site in Pakistan:

> "It can be frustrating from time to time since the phone call disconnect every 20 seconds, reconnect after 20 seconds again and so on. It makes it hard to get a flow in the conversation, since it becomes so stressful to try to say as much as possible before the call disconnect. When the call reconnected again, we needed

> to backtrack to where the call ended, which we do not always know, since we cannot hear when the call disconnects." (Project Manager, Sunny)

The way the technology was used previously in the team limited the conversation between the sites since the line was disrupted and it was no clear way of how they could find back to where they last heard each other. As a consequence, Sunny changed this process, which the manager further elaborates on by an explanation on how they reconfigured and changed the technology to become better designed for the specific context and increase the interactions between the sites. As the project manager for Sunny puts it:

> "Nowadays we have changed the way we work during those conferences, so we faster can find back to where the conversation should continue from. For instance, we use codes that helps us find back to the last thing that the other person heard before it disconnected. If the situation demands it we are also faxing over papers with information sometimes" (Project Manager, Sunny)

How the technology was used at first limited the interactions between the sites. However, when the process became changed by the team members, the social interaction increased. The technology brought unintended consequences, when the communication process became reconstructed within Sunny. It was therefore crucial to focus upon the solutions to bring the company forward, instead of the complications. The ability to develop a way around the downsides of the technology and turn it into a positive outcome were important. As demonstrated, the phones interrupted the conversation, which resulted in difficulties to understand each other due to the deficient connection. Another area of how technology was changed from inefficient and time consuming to a developed process, was the construction of code words and the use of a fax machine to send documents. This made it possible to interact even when the internet connection was disturbed, which was a repetitive issue especially when communicating with Pakistan. One of the project managers for Sunny explained how those kind of solutions would not be found if the focus had been on the "*crappy internet connection"* instead of accepting the problem and work around it with innovative thinking. Further, as it turned out, Cloudy did also face challenges while working across borders, but instead of having issues with the internet connection they faced challenges with the time zones. As one of the employees for Cloudy put it:

> "It is so much fun working in an international organisation. I love it and it opens up for so many possibilities. I mean we would not be as big as we are if we placed our business in one place, but it is so hard sometimes to interact and communicate with each other." (Employee, Cloudy)

The employee from Cloudy started off by explaining how important it is for the organisation to work over international borders, but the employee also expands on the complications the circumstances brings with using the technology tool - phone conferences:

> "The big challenge we are facing right now is how our project teams are working over three different time zones: North America, Europe and Asia. It is difficult to find a time when we can include everyone and on the same time make sure everyone gets their night sleep" (Employee, Cloudy)

In this case Cloudy was not able to change the time zones nor did they want to wake someone up in the middle of the night, to attend a meeting each week. Instead they were trying to find other solutions to this fairly new struggle that Cloudy was facing, since Asia had not been part of the Cloudy team for very long. Before they could run the meetings in the afternoon when the team only included North America and Europe, but now when they have become a wide spectrum of times zones, other solutions had to be found. An employee in Cloudy explained how they solved the problem:

> "We started to interact with Asia through other tools and recorded the conference meetings, so Asia still could follow the process." (Employee, Cloudy)

As can be seen, by exploring the technology and configure the way technology was used, a better fit could be constituted by the employees that acted upon the technology to find a more suitable design for the context. Without the technology, distributed teams would not have been possible. By changing the way technology was used at the specific context the time zones could be taken to an advantage, as an SA in Cloudy elaborated on:

> "Now when we have found this solution, we can work efficient on the project twenty-four hours a day, five days a week. When I have been sleeping my colleagues from other time zones have finished some work over the night." (Solution Architect, Cloudy)

The above example shows how significantly important it is to design the technology so it fits the context. What is important when using phones to communicate in distributed teams are the focus upon the solutions and how the technology can be changed and adapted by the employees to the specific context. When the technology was adjusted the project became ongoing.

In sum, one can see that the interactions have evolved with the technology and is a key feature in order for the group to function. The empirical examples show that the employees and the phones are relying upon each other in order to functionally work at a distance. When the teams face challenges with the connectivity the members must find solutions to be able to communicate despite the interruptions. This example shows how important it is to not make a taken-for-granted assumption regarding technology and constant connectivity. The team members had to change the way the technology was used and find other ways to communicate. When the teams connect with each other over the phones, personal relationships among members are also affected by the context of working in the virtual space, this will be elaborated further in the next section.

Consequences for the relationships among team members

This section will cover different ways of relations among the members in the teams and the role technology plays. As stated in the previous categories, it has become evident that the technology and employees created both possibilities and difficulties, therefore this section focus on the consequences of the two. This section is divided into two subparts, which starts off with relationships that is based on a mediated distance communication mixed with face-face interaction, followed by a category that includes pure distance communication.

Mixed interaction

Mixed interaction was mostly found in the Sunny team since they had a kick-of meeting before the project started. Therefore, the members had meet each other before they started to work from a distance and interact through technology. The examples that follow explains how Sunny created a team spirit, by always starting projects with some kind of social activity with the whole team. After the kick of meeting, only virtual interaction was used. As the project manager for Sunny stated about the kick-off meeting:

> "I always arrange a kick-off meeting before the project start, like bowling or something, it makes the project easier and smoother. Because then the employees have met the people they are going to have contact with over phone later on." (Project manager, Sunny)

The project manager for Sunny meant that the face-to-face meetings are necessary to manage and overcome the effect of working in distributed teams. The relations that were created when the members meet face-to-face, results in better work later on in the project. The project manager was not sure why, but he meant that something happens when people build a personal relationship and create this bond with each other verses when people do not know anything about the other people in the team. As explained, by having some form of activity the team becomes closer to each other when they in this case play bowling together.

Additionally, the project manager for Sunny further stated the importance of creating a relation with co-workers face-to-face, since some conversations are not suitable to handle through technology. The manager gave an example from such an experience:

> "It was just too sensitive to discuss over the phone or email. The information I had got was that the employee had misbehaved during work, this was eventually due to alcoholic abuse during work hours." (Project Manager, Sunny)

During this interview, it became clear that this specific situation was too sensitive to handle over the phone even though they had meet face-to-face. As can be seen in this case, the phones limited the possibilities to achieve a mutual understanding. The claim turned out to be just gossip and the information was false. The manager expanded on the situation:

> "It was misleading gossip that was proved to be inaccurate after conducting a health test. When I showed up and had an honest and respectful conversation and built on that personal relation, it turned out well. I truly believe that those kind of talks just have to take place in a face-to-face setting." (Project Manager, Sunny)

In the situation explained above the findings showed how important it is to build a strong personal relationship before interacting over technology, especially when the situation is very sensitive. This was seen in the email conversations between the employees that had a prior relation with each other. What was notable in those conversations compared to the ones that did not have a relation, was the personal notes and symbols. Examples found in the emails in both Sunny and Cloudy between people that had a relation were:

> "I hope you have a great trip to Italy :D" or "My kids will play a soccer tournament this weekend". The e-mails often ended with "have a great weekend :D", "Enjoy the good weather :)" or "say hello to everyone at the office from me ;)". Smiley symbols were used and friendly statements like; "let me know if you need any help" or "don't hesitate to call if anything"

A SA from Cloudy expanded on how it was to work with people that they had not built a relation with:

> "I believe that it is easier to take up the phone and call people in the team that I have a relation with, than the ones that I have never met or talked with before" (Solution Architect, Cloudy)

The personal emails showed how the employees that already had a relation uphold it by using personal information and symbols to keep the bond.

In Cloudy the struggle with the distance and the setting with the different sites created a social distance which resulted in a lacked team feeling and instead, the team became divided into groups. The observations made it clear that the relations among the team members were affected dependent on if the members had meet face-to-face or not.

Distance interaction

This section is focused upon when the employees only had interacted through technology and not had seen the co-workers in a face-to-face setting. Cloudy did not have events that opened up for the possibility to meet the other sites. However, this section will also include Sunny since even though they had meet each other, they still did not know each other very well.

In Cloudy the emails became more task focused, formal and less personal with no symbols or personal information, which is a distinct difference from the emails in Sunny. An example of this, in the observed emails, were how the emails started and ended:

> "To whom it may concern", "Dear Sir/Mam", "Best regards" or "Thank you".

The collected data showed that the communication is affected dependent on if the employees have a relation or not. Even though team members communicate through technology on an ongoing basis, it is still difficult to build relationships without meeting the one´s they are working with face-to-face. The SA in Cloudy explained how the unshared context influenced the behaviour at work, since the employees found it hard to contact each other when no prior relation existed. The technology could not fulfil the social distance gap between the sites. Compared to when the relations were built face-to-face beforehand, the technology could keep the relation going:

> "I feel more comfortable to call people that I have meet in real life, the conversations become less awkward and stiff. If possible I try to avoid to call the other sites." (Solution Architect, Cloudy)

Due to the fact that the members worked on tasks together, they were dependent on each other to accomplish their goals. Therefore, it could be seen as a hindrance if people in the project tried to avoid to talk with each other as a result of the lack of relations with each other. However, one can see that positive effects can be found when the teams did not know each other very

well personally, since the only conflicts within the teams were task-based. One of the employees from Sunny explained its lack of experience with conflicts at work:

> "We never have any personal conflicts going on, if it is some kind of conflict it is only task or work related, we do not have any gossip or no personal bullying or anything. Of course there are moments when we do not get along but it is always related to our work and how we should do it in the best possible manner. I really like to work in this kind of atmospheres." (Employee, Sunny)

However, another effect of using technology as the only way to interact keeps the focus on the task, since no personal conflicts exist when the disagreements are held towards the task. On the other hand, Cloudy had an increased amount of task based conflicts. The team had a strong will to get things done in time, but often the team fails to do so which brought a lot of frustration. The employee in Cloudy continued to explain that even if people could be pointed out as responsible for the delay, the conflicts were only task-based, since the employees only knew each other to a certain extent. Another employee from Cloudy adds an example on how hard it is to have personal conflicts even if one would wish. Since the employees lack a close relation when the groups more or less only communicate through technology.

> "It is not like we have this problem with "Sam" who never cleans up the sink in the kitchen or "Adam" who never refill the printer with paper. I guess those kind of conflicts are common in other working environments, but here they do not exist. Because I do not care if they have a dirty sink or papers in the printer as long as they do their job and contribute to the group." (Employee, Cloudy)

In sum, as can be seen in the practical examples, the relations among the members and technology has consequences. As can be seen, when the team members had a relation that was built at first in a face-to-face situation the interactions increased among those members, a friendlier tone was used towards each other and the employees contacted each other more frequently. Both teams lacked personal conflicts since the employees worked from different places, the conflicts that arouse under the studied period were only task-based. The findings in particular shows how the team members and the technology depended on each other. In this case, relationships between members in the teams are impacted by the technology and the way the technology is used is impacted by the type of relationships that existed in the teams.

Discussion

The findings will be further discussed from a sociomaterial lens by interpreting the empirical examples with help of the concepts of entanglement and intra-action. By doing so, we can show how employees and technology can create possibilities, difficulties and consequences of interaction in distributed teams and how this could be understood in practice.

The social actions in this type of globally distributed context is possible due to the entanglement and intra-action of materiality and human actors, which is accomplished through a process (Leonardi, 2012), including both phones and humans. At first, the collected findings might not be seen as continuous enactments, but rather as fixed technology that is separated from the human part. However, when applying a sociomaterial perspective on the empirical examples, one can understand that these two parts are inseparable and the teams are constituted by relations between technology and employees. This argument is inspired by

Orlikowski and Scott (2008) who claims that the technology in this case, the phones, are not capable of achieving anything by themselves, instead the interactions are created by the entanglement of employees and technology.

Understanding the technology as a whole

Our data highlights the importance of understanding that no entities are inseparable and exist by themselves (Orlikowski & Scott, 2008; Leonardi, 2012). The consequences of using specific technology, like phones and emails are not always taken into consideration, even though the activities within the teams Cloudy and Sunny relies upon several entanglements including the organisation, technology and context. Often the technology is treated as a separate entity and not in existence with other parts, since they usually are invisible and unconsidered (Orlikowski & Scott, 2014).

This study covered how technological entities makes it possible to interact with each other in the globally distributed teams at TeleCom MNC. To understand the entanglement and complexity of the phone conferences, one has to consider that the phones consist of both human and non-human factors, that cannot be untangled, which the theory from Leonardi (2013) supports. The possibility to interact in this kind of setting becomes visible when the teams use the mute button during the phone conferences. The mute button can in this case be seen as entangled in practice, since actions were accomplished by the employees and the phones. The sociomaterial perspective gives us an understanding about the entanglement of how phones are made by humans and that they are only fulfilling its purpose when a human actor uses the phone. This goes in line with how Styhre (2011) explains the function of the screwdriver. Therefore, we argue that phones are not only material entities, just like Orlikowski (2007) explained in her study of BlackBerry's, rather they are entangled with humans, which both opens up for the possibility to interact at a distance and also increase our understanding of how technological entities are made.

By not taking the technological entities for given, but instead understand the underlying complexity of human and non-human parts we are able to not only describe the practice but also develop and improve the work, which is something that is useful when facing difficulties. Cloudy had to develop and improve the interaction when Asia became a part of the team. They started to record their meetings to overcome the difficulties of working at a distance with many different time zones and by doing so, Cloudy reconfigured the way the technology was used and developed it to a better fit.

The lens of sociomaterial entanglement helps us understand the complexity of the technology when considering the social and technological roles in the entangled practice. Human agents appear to construct the technology to reach the desired effects, which could be seen in the empirical example of how Sunny changed the communication to code words when talking with people in Pakistan, due to the disrupted internet connection. This has been demonstrated by previous studies by Orlikowski and Scott (2008), the authors found that technology might be perceived and used differently dependent on the entanglement and the feasibility of the conceptualising artefacts. It was especially important to handle and twist the technology to find a greater fit in the given context. Since a customized solution dependent

upon the context was more suitable to be implemented. An explanation to this is the human's ability to design the technology as they wish (Schultze & Orlikowski, 2010).

Our findings show the importance of building relations in the beginning of a project, as Sunny did when they had kick-of meetings. The kick-off meetings made the communication through technology both easier and more regular later on when the project members worked from a distance, which the study by Maznevski and Chudoba (2000) also concluded. The relations that were built during the kick of meetings in Sunny had a substantial effect on the outcome of the project. In the empirical example, the relations made it easier for Sunny to pick up the phone and call colleges during the project, which is similar to the results that Peter and Manz (2007) reported.

If a face to face relation was not built among the team members in an early stage as described in Cloudy, the members in some cases avoided to contact each other even if the team had worked with each other for four years. We support what earlier studies claimed, that technology mediated communication can affect the social interaction (Kirkman et. al., 2004; Shin, 2004; Peter & Manz, 2007). However, those earlier studies of distributed teams do not view the mediated communication from a sociomaterial perspective and therefore does not consider the social part in combination with technology, which our study does. As a result, the entanglement in the social and the technological aspects creates the relationship among the members. The importance of taking all the effects of the chosen technology and the social into consideration when working on a project was prominent, which authors of earlier sociomaterial studies have suggested (Orlikowski, 2007; Orlikowski & Scott, 2008; Styhre, 2011).

In sum, we have highlighted the ways the social aspect in form of team members are enacted with the technology in practice. The sociomaterial perspective allows the discussion to show how phones and the team members are not separated entities. Instead, each entity, including both team members and phones exists in relations and through enactments and together configure the results. The process of the enactment by team members and phones are shaped by the interaction between the mute button, the emails and the humans. Our study contributes to earlier studies by adding the sociomaterial perspective when investigating the interaction among members in distributed teams.

Acknowledge the relationships to find the perfect fit

Bringing the discussion one step further allows us to not only see technology and the team members as inseparable, they need to be considered as a process of relations consisting of different actors. This provides an understanding of the interaction when seeing the different actors in a co-emerging relationship and not as pre-existing entities.

When using a sociomaterial framework, one can understand that a phenomenon is constituted by different actors that are brought together into a relationship and that those actors cannot be traced down individually since they are not pre-existing (Jones, 2014). Jones (2014) argument helps us understand how the interaction between team members and phones in the multiple situations are constituted by looking at the intra-actions and blurry boundaries between the actors.

When observing the phone conferences in Cloudy it became clear that the meetings included multiple actors. Examples of actors in the given situations are the team members, the computer screens they share, the phones they talk through, the fingers that dial

the phone numbers, and the sites they are working from. All those actors emerge within a relationship, that opened up for new possibilities that were not available before the emergent phenomenon of working at a distance. One of these possibilities that comes from the actors' relations is the ability to use the mute button while sharing computer screens during the meetings which confirms the way Nyberg (2009) states that relationships do not pre-exist, rather they are co-emerging. As argued from a sociomaterial perspective, the possibility to multitask is done through the human's ability to act as an agent upon the mute button while the team members are sharing a screen during the meeting. The given possibility to intra-act with the mute button during the presentation changed the interaction, because employees were now able to multitask.

Hence, the different technological entities that represent some of the actors in the relationship, played a major part in how the work process was constructed. Thus, a picture that emerge from our study uncovered the difficulties when one of the actors, the internet, is not working as it should for Sunny. The internet in this situation worked as a material agency (Barad, 2003 in Orlikowski & Scott, 2008), since the internet acted and decided how the relationship was brought together. It resulted in changes within the relationship, the sentences were modified with code words, in order to cover more information during a shorter duration. Additionally, due to the *"crappy internet connection"* the phones were exchanged with a fax machine to keep the interaction going among the members. This supports Doolin and McLeods (2012) explanation of how materiality contributes to a meaning through reconfiguration of team members. A similar example of difficulties that team Cloudy faced, was when Asia and another time zone became actors in the relationship, when the new actors co-emerged (Jones, 2014), the activities had to change. However, when the actors in Cloudy reconfigured to a better fit the context of new actors, the different time zones became an advantage instead of a burden in the relationship. This illustrates some of the difficulties when interacting through technology at a distance. The previous example regarding the disrupted internet connection is similar with Nyberg's (2009) example of how the computer has the ability to "throw us out" and act as a material agency, but at the same time both the social and material played an equally important part. When observing the teams, it is hard not to think about the consequences that all the actors have on the outcome of the projects.

An area that is highly interesting is how the given context of working from a distance has consequences on the relations between the workers, since the interactions are lacking. When looking at the examples of whether people had meet face-to-face or not, our findings suggests that this played a difference when they later interacted through different technological entities which is supported by Wajcman and Rose (2011). As Maznevski and Chudoba (2000) explains, a distributed team´ performance increase if the members have meet face-to-face before they started working. In our case, we argue that when employees had met face-to-face, it leads to increased interaction among the people, which later on shaped the outcome. Our data shows that it becomes easier to interact later on, when the relationship has changed to a distributed relation. An example of this, is how the people that had meet in a face-to-face context used symbols and personal messages, which were not found within the groups that had not met face-to-face. At the same time, since none of the teams had strong personal relations among the team members, personal conflicts did not appear, which often are found in a traditional setting according to Kankanhalli (2006). Therefore, we can see that when actors

change, in this case the context of the setting, the co-emerge of those actors changed the way interaction later played out as a consequence. Intra-actions can be found in any given situation observed in the study between different actors, from a button to a pen or human. However, those actors can sometimes be hard to identify since they often are taken for granted and therefore the boundaries become blurry, this phenomenon is something that also Nyberg (2009) has studied. He had a similar understanding as us, since he points out how objects used in the work environment becomes invisible when they are intra-acted.

In sum, what can be argued from the discussion above about intra-action is how the empirical examples captures the importance of enactment in all studied features in relations, by seeing all things as mutually constitutive. Consequences of the relations play out in different ways depending on how things and people co-emerge. By understanding the intra-actions, we can also develop and reconfigure those relationships, that change the consequences of the interactions among the workers. During the investigation of our selected field we found that Orlikowski and Scotts (2008) statement holds true, that earlier studies of distributed teams have not treated technology as inseparable with multiple aspects. The spotlight in those studies have instead been on the impact of performance and the results in such settings (Cramton, 2002; Hinds & Bailey, 2003) or how to lead, manage and create trust (Boies et al., 2015; Rapp et al., 2016; Bassanino et al., 2014; Giuffrida & Dittrich, 2015; Cheshin et al., 2013; Navarro et al., 2010). This study's unique research contribution, within this setting of distributed teams fills a research gap identified by Wajcman and Rose (2011), since it is focused upon how possibilities, difficulties and consequences of technology unfolds in the two distributed teams at TeleCom MNC, Sunny and Cloudy. Adding the sociomaterial perspective to the empirical findings, which is quite unusual according to Styhre (2011), provides us with insight into how well humans and technology are intra-acted and entangled in the distributed teams.

Conclusion

This article's aim was to explore the research gap by using a sociomaterial perspective to study technology's possibilities, difficulties and consequences regarding interaction in distributed teams. With emphasis on intra-action and entanglement in practice we have been able to view humans and technology as mutually constitutive, meaning that it is not possible to separate them. Our findings show that technology's possibilities, difficulties and consequences change team member's interaction in several ways and therefore, technology needs to be viewed as inseparable from the social in a co-emerging relationship.

The possibilities that technology contribute to were illustrated when the employees' in both Sunny and Cloudy used the mute button to multitask during the meetings. This finding highlighted the importance of viewing technology and humans as dependent on each other and acted as inseparable entities in a co-emerging phenomenon. Moreover, we can conclude that humans and technology are two enacted factors that could be viewed as working in symbiosis with each other in an ongoing process during the meetings.

We can conclude that phones are not only material but also highly social according to our perspective. The perspective that we have adopted is built on relations and therefore the phones in this case cannot be taken for granted, instead it is the entanglement between the employees and the phones that reconfigure the interaction in the distributed teams. We have

emphasised how interaction with communication technology to a big extent depends upon if the members in the team have interacted face-to-face, or if the members only have met in a virtual setting. This finding demonstrates the effect of the given communication media and the social setting in the organisation.

Our study only analyses the distributed environment within two teams at a single company, therefore our findings might not be generalizable in other distributed teams. Even though our study might not represent an ordinary example, it can still be informative since fractions might be relevant in other organisations with similar types of teams. In regards to this, by not generalising the study but rather restricting it to similar organisations and settings would be most appropriate.

This article has been written in order to expand the knowledge of how technology changes the setting in distributed teams, by seeing technology as a co-emerge of many different actors. Through the understanding of entanglement and intra-action that arose from focusing on the technology as a changing phenomenon in a virtual setting, this article contributes to previous research on distributed teams. The field of technology and distributed teams are at this time interesting since new communication tools and the globalization are factors that together have changed the traditional business context. Future studies of this and similar phenomena could benefit from the use of a sociomaterial perspective.

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