



**UNIVERSITY OF GOTHENBURG**  
**SCHOOL OF BUSINESS, ECONOMICS AND LAW**

**How Digital Communication Initiates Relational Erosion**

A Multiple Case Study of Relationships in Three Swedish SMEs

**Authors:**

Willy Hasselberg 950418

Oscar Karlsson 950412

**Supervisor:**

Herman Ståhl

**Department:**

Graduate School

**Course:**

GM0861 Master Degree Project in Management

# How Digital Communication Initiates Relational Erosion

A Multiple Case Study of Relationships in Three Swedish SMEs

Willy Hasselberg

*Master of Science in Management, Graduate School  
School of Business, Economics, and Law at the University of Gothenburg*

Oscar Karlsson

*Master of Science in Management, Graduate School  
School of Business, Economics, and Law at the University of Gothenburg*

---

## ABSTRACT

The study takes interest in digitalization's influence on people in their business lives and more particularly on how digital communication technologies affect relationships at SMEs. It starts by introducing the topic to the reader describing the phenomenon at large. Since only a fraction of the organizational studies over the years have emphasized technology when trying to explain people's behaviors, this study aims to fill that gap. Therefore, it investigates the influence of digital communication technologies on the daily work of employees in a qualitative study including three SMEs who use digital communication technologies frequently. The methodological path of interviews is chosen in order to get detailed information from the respondents and to be able to answer how digital communication influences relationships in SMEs. The collected material highlights significant relational downsides with increased use of digital communication while also stressing the perceived increased efficiency and focus as positive outcomes. The analysis elaborates on the data found in the empirical section with the three main disadvantages of an increased use of digital communication: the isolation of individuals, the isolation between teams, and the gradual erosion of relationships. These disadvantages are thereafter put in relation to the benefits of communicating through digital tools which are increased efficiency and greater flexibility for the individuals.

**Keywords:** Digital Communication Technologies, Digitalization, SME, Actor-Network Theory, Networks, Relationships, Intermediaries, Mediators, Affordances, Constraints

---

## INTRODUCTION

Digitalization is a phenomenon that has been heavily affecting the organizational landscape in recent years but also a phenomenon that has been transforming the global economy for decades (Cortellazzo et.al., 2019). The concept of digitalization in an organizational context can, however, be perceived as somewhat broad as it is widely used in many different constellations and with various meanings. Digitalization, in this paper, is defined as the “Incorporation, in a broad sense, of digital technologies to a company in order to improve the capability and performance.” (Vázquez, 2020). It can thereby include digital technologies such as communication tools, general systems, and automation technology that increases the performance of organizations (Kuusisto, 2017). Digitalization has meant changes in work processes for employees and also forced companies into complete organizational reconstructions due to the speed of the change (Cortellazzo et.al., 2019). Moreover, in 2020, the Covid-19 pandemic struck the world by surprise, forcing many organizations to operate remotely (Soto-Acosta, 2020). Several governments set out specific guidelines of how many people could gather in business premises that forced organizations to make quick changes in their processes to meet this legislation by working remotely (e.g., Swedish Public Health Authority, 2021). In the light of this, many companies have had to act swiftly in order to cope with the fast-paced change that the new business environment demands (Spataro, 2020). As a result, the pandemic has accelerated digitalization in organizations, including the increased usage of digital technologies in all ends of the organizational functions (Spataro, 2020; Soto-Acosta, 2020). Digital technologies are, generally, a broad concept that entails programs, resources, and websites (Davidson et.al. 2016) which have revolutionized industries since they have enabled a vast increase in data management efficiency (Avolio et.al., 2014). Moreover, digital technologies have been an essential component of the digitalization wave that has been progressing over many years which, in its turn, has transformed the way companies work, organize, and manage (Avolio et.al., 2014; Kuusisto, 2017). Even if the technology was used before, organizations have been forced to acclimatize to DCTs as part of their organizational lives more than ever before when physical meetings are not allowed (Pandey & Pal, 2020). DCTs are part of the daily routines at work and such tools are phone calls, social media, mail, and communication apps which are oftentimes taken for granted for their contributions in the business of today (Avolio et.al., 2014). The use of video communication has as a result of the Covid-19 pandemic been exposed to an unprecedented increase in 2020 as compared from the start of the pandemic (Nguyen et. al., 2020). Zoom and Teams are two popular communication tools in businesses today due to their great functionalities which have led to an increased use of both (O’Halloran, 2020). Thereby, the situation has not only given the possibilities of constant connectivity to its users, but it has also given organizations access to reach people in distant geographical areas without having to travel for business (Soto-Acosta, 2020). Studies have found that digital communication has opened doors for organizations in their interaction with customers, which has led to an increased sales performance (Wenzler & Schmidthaler, 2019). DCTs are providing employees with a tool for their organizations to interact with actors within their network (Pagani & Pardo, 2017). This indicates that one feature of DCTs is the intention to bring people closer as they intertwine people and technology and allow people to

connect and perform their tasks more efficiently with the aid of technology (Pentland & Feldman, 2007). Some of us might remember the Nokia slogan “Connecting People” used in the 90s and 00s which implies technology allows for connectivity between people no matter their geographical locations. While (Nokia’s) phone calls are seen as an old-fashioned communication tool, nowadays there are many newer modes of communication that are available than voice calls (Madianou & Miller, 2013). DCTs contribute with various capabilities to the conversation in order to facilitate its participants with a meeting which is aiming to resemble the physical environment in order to increase the efficiency of the same (Kuusisto, 2017). Whichever digital technology one uses, they are all designed for people to interact with one another and to enable connectivity between people (Pentland & Feldman, 2007). The increased use of DCTs stemming from remote work has raised several questions about what is happening to organizations and teams working digitally without the physical face-to-face interactions (Hyken, 2021). Even though the organizational landscapes are being increasingly affected by the digital environment, the technological aspects have not been emphasized enough in organizational studies and usually falls short in emphasizing the role technology plays in the everyday work of organizational processes (Orlikowski & Scott, 2008; Blaschke et.al., 2012). When mapping leading journals, it was found that only about 5% of the studies attempted to incorporate technology when explaining organizational behaviors (Orlikowski & Scott, 2008). This lack of technological interest is staggering considering that 79% of knowledge workers (normally office workers such as marketers, administration etc.) in the world were working remotely to some extent even before the pandemic (Bloom-Feshbach & Poyet, 2018). While teams working with DCTs have been studied before, although with other research focuses, shining a light on the relationships between actors influenced by technology in a digital setting will bring a new perspective of how these relationships are impacted. The definition of relationships in this study is “a state of affairs existing between those having relations or dealings with one another” (Merriam-Webster, 2021). Recent studies incorporating the role of technology have focused on the well-being of employees working digitally (Bordi et.al., 2018), increased flexibility for workers (Entschew, 2019), and the increased stress and pressure when using DCTs (Barley et.al., 2011). By studying the phenomenon with help of Actor-Network Theory (ANT) and the role of affordances and constraints the study will look at DCTs impact on relationships with a new lens.

The study investigates how DCTs influence relationship structures in small and medium-sized enterprises (SMEs), and specifically how people and technology interact in these structures in relationship building and maintenance. The definition of SMEs in this report is that they have less than 250 employees and a turnover of less than 50M Euro (European Commission, 2021). SMEs are particularly interesting due to their tendency to have close relationships between employees within the companies (Beugelsdijk et.al., 2006). While it is common to focus research on large companies, they are only a fraction of all the companies within the European Union as 99% are SMEs and they employ over 100 million people (European Commission, 2021). As a result, the report aims to provide a better understanding of how DCTs influence SMEs by shaping the relationships between individuals. Therefore, the research question of this paper is: *How are digital communication technologies impacting the various social relationships at Swedish small and medium-sized enterprises (SMEs)?*

## **THEORETICAL FRAMEWORK**

### **Digitalization and Digital Communication Technology in SMEs**

In recent years researchers have tried to outline how SMEs can incorporate digitalization in order to drive growth and profit of the companies (e.g., Eller et.al., 2020; Saarikko et.al., 2020). This is relevant for businesses in their everyday organizing and especially now as a result of the current pandemic state of the world that has driven digitalization faster than ever before, especially for SMEs (Soto-Acosta, 2020). This has forced organizations to make changes in their operations and developments in their digital toolbox in order to cope with the digital change triggered by the pandemic. However, the pace of digital implementation during the pandemic has been extremely high, in contrast with the normal pace of digital implementation which is comparatively slow in SMEs (Kilimis et.al., 2019). Further, it has been found that IT adoption, leadership strategy, and employee skills are crucial in order to push towards digitalization within organizations (Eller et.al., 2020). These factors, in turn, impact the profitability of the organization as digitalization is a major contributor to growth for SMEs. In addition to the above, organizations also need to have a committed workforce and make sure that people feel they own the change that is occurring (Saarikko et.al., 2020). However, several change models have been suggested for companies that want to drive change and achieve better efficiency in organizations but there is uncertainty as to which works and which does not (Hussain et.al., 2018). Despite the importance of digitalization in SMEs there seem to be uncertainties regarding what actually works in organizations and the incorporation of technologies' importance in traditional theory building.

In spite of the traditionally low technological advancement and the overall slow digitalization processes in SMEs, many organizations have in recent years been forced to adopt more DCTs (Soto-Acosta, 2020). However, the focus has been more on internal communication as that technology has allowed for new programs to be implemented that have greatly improved functions for the organizations (Lipiäinen et.al., 2014). The main attribute of DCTs is that they disconnect the time and space assumption that people have to be at the same place in order to communicate with each other (Rosa, 2014). Further, it opens for greater freedom for the people within the organizations who can work from their preferred location at any given time (Boswell and Olson-Buchanan, 2016). As a result, it gives the people within the organizations more choices than previously to adapt their work to their situation (Entschew, 2019). That being said it can also lead to an increased workload and a demand to be connected at any given time, which erases the boundary between being on and off work (Hoonakker, 2014). Studies have shown that people feel a greater pressure to reply and react fast when getting messages or emails in the digital environment (Barley et.al., 2011). Further, DCTs can act as both a resource as well as a burden to organizations where they either inspire, motivate and assist workers in their tasks but could also require more effort and be mentally and physically demanding (Bordi et.al., 2018).

### **The Role of Technology in Organizations**

Over the years during the development of management literature, there have been attempts to understand the role of technology in organizational work (Yoo, 2013). Organizational studies

have somewhat disregarded the features of the material (Leonardi and Barley, 2008), and the importance of non-human actors as foundational fragments of networks (Latour, 2005). In the ever-changing environment that organizations find themselves in and with the increased use of digital technologies, it is important to emphasize the influence that materials such as DCTs have on networks of people (e.g., Blaschke et.al., 2012; Yoo, 2013; Leonardi, 2011). Technologies have become a hallmark feature in the modern organization and have contributed to vast increases in organizational efficiency, and thereby needs to be considered (Leonardi & Barley, 2008). Researchers have in many different ways tried to better understand and explain the relationships between human and non-human actors within social structures and as influencers of the daily life of organizations (e.g., Orlikowski & Scott, 2008; Leonardi & Barley, 2008). The ambition of the authors has been to open the previously unknown black boxes of organizational networks in order to understand the different processes in greater detail instead of seeing networks as only one entity that is taken for granted (Orlikowski & Iacono, 2001). Despite these attempts to better understand the correlation between different entities, such as technologies, and the social elements, it still has a way to go in order to provide answers to what enables or constrains technological development (Yoo, 2013). As emphasized, digital technologies are important and influencing the everyday life of the people, but only a fraction of the studies conducted takes technology into account in management literature (Orlikowski & Scott, 2008). In investigating how many of the studies in leading journals that incorporated technology into their explanation of organizational behavior it was found that 95% did not consider technology at all. (Orlikowski & Scott, 2008). When studying DCTs it is often knowledge workers who are interacting with the technology, as such knowledge workers are usually the ones closest to the technology and therefore of particular interest to the study (Entschew, 2019). Authors who have tried to incorporate technology when researching organizational behavior seems to focus more on snapshots of organizations where they map how the actors interact and with what technology but falls short on emphasizing the role technology plays in the everyday work of organizational processes (e.g., Blaschke et.al., 2012).

### **Networks of Human and Non-human Actors**

If looking at networks through the lens of the ANT, the networks consisting of solely homogeneous actors and a stable environment quickly becomes irrelevant (Callon, 2001). One of the core assumptions of ANT is to see the social as an ongoing achievement in which heterogeneous actors including both human and non-human actors become recognized and are perceived as pulling strings in this ever-changing environment (Callon, 2001; Detel, 2001). Networks have been studied for decades, but are generally something that is not reflected upon, and with digital change having an imprint on modern organizations, the importance of incorporating non-human actors as entities of networks becomes even more prevalent (Callon, 2001). The theory is thereby differentiating itself from others by accounting for materiality in actor networks and not solely on human interaction.

When applying the concepts of ANT, the technology and the social world are inherently seen as being linked in heterogeneous networks, in such a way that “society, organizations, agents, and machines are all effects generated in patterned networks of diverse (not simply human) materials” (Law, 1992 p. 380). Thereby, non-human actors are equally important for the facilitation of the networks as human actors are, and that everything in society is connected

to those networks in one way or another, composing both materials and humans in complex forms (Law, 1992; Latour, 1991). Thus, ANT is not so much a theory of the social, but rather a method used to trace and describe how associations between heterogeneous actors are created and transformed (Latour, 2005). Traditional theories are oftentimes dichotomizing entities (such as actors vs. objects, societies vs. technologies), which could lead to simplified explanations of reality, and instead, in ANT all entities are treated as equally important in order to capture all possible nuances (Latour, 1987; 2005). More recent research has then developed the ideas of ANT and the incorporation of non-human actors in sociology and networks (Gourlay, 2016). All ANT scholars emphasize the importance of heterogeneous actors and assume that all entities within a network can and should be described in the same terms. However, networks in general and specifically networks consisting of non-human actors often become overlooked or simplified (Latour, 1991; Law, 1992). The concept of a stabilized network is called the black box; in which the small individual bits and pieces of a network often are overlooked or not reflected upon until friction arises and they suddenly appear (Latour, 1986). When the functionalities of the network fail or the overall effectiveness slows down, the black box shatters, and the individual entities are revealed (Law, 1992). This is also when the network suddenly becomes interesting to study and an outline of an approach for the sealing of the black box might emerge. Because a stabilized state is always desired as it constitutes the foundation of society this is when actors' points of view are again aligned and when the black box seals (Latour, 1991). Therefore, the black box of this study is considered to be the networks of the organizations or rather the individuals within the networks of the organizations who are facilitated by the DCTs and without the possibilities and aid of physical interactions. Due to the new ways of operating with an increased usage of DCTs and with a lacking amount of physical interactions, the previously untouched structures with fragile relationships have shattered and made all individual entities visible and reflected upon.

### **Intermediaries and Mediators**

As ANT has a rather unique take on social networks with an emphasis on technologies and heterogeneous actors it becomes crucial to ask questions that expose all the individual bits and pieces of a network (Montenegro & Bulgacov, 2014). Many concepts are complementary to one another in their attempts of visualizing this, and that tries to see the differentiation in functionalities of the individual actors within the networks. Those concepts are important in social studies in order to see the different networks not only as fully functioning collectives at all times but to see the small individual bits and pieces of human and non-human actors in association to one another (Callon, 2001; Detel, 2001; Law, 1992). Furthermore, authors have emphasized the importance of incorporating non-human actors and describes technologies as "programs of action coordinating a network of roles" (Callon, 1991, p. 136). When digging deeper into the association of actors and the incorporation of non-human actors within networks Latour (2005) argues all actors should be taken into account and that all individual actors are of significance. However, they can be distinctly identified and perceived as having different functionalities within the network (Latour, 2005). Even though human and non-human actors can be perceived as equally important for the facilitation of a group or network in ANT the heterogeneous actors can be identified or separated into two different categories: namely being the intermediaries and the mediators (Latour, 2005). The intermediary is "what transports

meaning or force without transformation” (Latour, 2005, p. 39), meaning that those are actors that are somewhat black boxed and taken for granted of their functionalities even if they internally consist of many parts (Latour, 1991 & 2005; Law, 1992). Those entities can be seen as predictable as they are not necessarily making any difference to a state of affairs that are to be studied and can due to that be seen as irrelevant or uninteresting (Callon, 1991). Even though they might have a very complex structure they are oftentimes counted as only one entity that is taken for granted or even forgotten (Latour, 2005). However, even though intermediaries many times are unnoticed, they are still highly significant in shaping social relations (Hayes & Westerup, 2014). Mediators, on the other hand, are entities that multiply differences and thereby usually are a more interesting object to study. The mediators “transform, translate, distort, and modify the meaning or the elements they are supposed to carry” (Latour, 2005, p. 39), meaning that their outputs cannot be predicted by their inputs. From an ANT point of view and according to Latour (2005) and other ANT scholars, sociology is, in general, treating too many entities of the world as intermediaries that are taken for granted functionalities of networks. However, not only incorporating non-human actors is necessary for a greater understanding of social networks but understanding that intermediaries are rather a rare entity in a network is important, because human and non-human actors are predominately mediators that transform the circumstances of a network (Latour, 2005). Thereby an entity that initially is perceived as an intermediary that is taken for granted within the network can rapidly turn into a very complex mediator if it for some reason breaks down or does not function as expected. The same goes for a mediator that becomes black boxed or taken for granted, that it then is perceived to be an intermediary within the network (Hayes & Westerup, 2014). This technically means that in a social context, a network consists of endless numbers of mediators that are, when trusted, transformed into loyal intermediaries. However, this is never set in stone as those loyal intermediaries quickly can revert into unreliable mediators if not functioning as expected. (Latour, 2005).

### **Incorporating Affordances and Constraints With ANT**

ANT is not the only concept to consider non-human actors as entities of social networks. The concept of affordances and constraints emphasizes the importance of technologies as being either a quality or a burden for networks (Leonardi, 2011; Majchrzak & Markus, 2013). Technologies have become fundamental as an enabler for networked organizing as they both communicate with one another and facilitate human interaction (Leonardi, 2013). The concept of technological affordances and constraints looks specifically at the technologies within a network and how they affect other actors (Leonardi, 2011). Technological affordances and constraints mean that technological infrastructures are perceived as either constraining people in achieving their goals, or that they afford the possibilities in accomplishing them (Leonardi, 2011). The concept is described as a perception of technologies as either being a hindrance or an enabler as they collaborate with human actors (Majchrzak & Markus, 2013). Affordance is when actors or organizations have the potential to act with the help of technology to achieve a specific purpose while constraints are when the actor or organization is held back from achieving the purpose due to the influence of technology (Majchrzak & Markus, 2013). Furthermore, it is important to consider affordances and constraints as a relational concept rather than as properties of one another (Majchrzak & Markus, 2013). This means that the



interactions between the people and technologies are what is emphasized and their functional significance to one another.

Even though Leonardi (2011) and Majchrzak & Markus (2013), emphasize the technologies in a network through their concepts, ANT views reality as more ambiguous and that dichotomizing different entities such as human and non-human actors within a network is wrong. The powers of the network are in the associations, and thereby some individual pieces of a network are not more important than others even if they are human or non-human actors (Callon, 1986; Latour, 1986; Law, 1992). Thereby, the ambiguity of ANT can certainly be assisted both by identifying actors as either intermediaries and mediators, but more so the dichotomization contributed by the affordances and constraints. As mediators “transform, translate, distort, and modify the meaning or the elements they are supposed to carry” (Latour, 2005, p.39), they can be seen as entities of a network that effectively transform a body or a data set into something differentiating to what it was before it passed the mediator. This does, however, not mean that it has a negative impact on an intended data set, but that it certainly changes the content. As a result, a mediator has an effect on the network, as it is a point of distortion of for example a message that can change it in either positive or negative directions. Thereby, the translation or friction that the mediator creates does not necessarily mean that it has a negative effect on the network or the data set. In order to grasp and understand the concept of the mediator, the theoretical approach of affordances and constraints can provide further depth to this convoluted concept. A mediator can thus through its friction and change of the intended message be seen as either an enabler or a constraint for the network as a whole (Latour, 2005). Consequently, even though homogenous actors are intending in being an affordance to a network, they can become a constraint and a hindrance for actors either in their communication or their overall organizing work. Moreover, actors can be steady in their output and thereby predictable in their contribution to the translation process no matter if they are an affordance or a constraint. This means that they would have perceived characteristics similar to the intermediary even if they actually are perceived as problematic or exceptional for the network as a whole. This is, nonetheless, depending on the predictability of the output solely, thereby meaning that an affordance or constraint that is perceived as a black boxed intermediary can become a mediator if the output is no longer a predictable set of data congregated by the input (Latour, 2005). The reason for combining these concepts, in particular, is to get more depth in the analysis and a better understanding of the relationships between actors altogether. The use of ANT enables one to analyze networks with no a priori assumptions and to consider the materiality within the networks (Latour, 2005). To separate the individual entities, the concept of intermediaries and mediators is used to get a perspective of what entities actually have a perceived effect on the network. By adding the concept of affordances and constraints to ANT it gets a richer base for analyzing the phenomenon by looking at how technology can hinder or facilitate actors in their encounters with technology.

## **METHODOLOGY OF THE STUDY**

### **Design of Study and Potential Limitations**

In order to analyze the case of how DCTs affect social relationships in SMEs, a qualitative research method was chosen in order to be able to answer the how part of the research question (Silverman, 2017). A qualitative research method is essential when investigating a phenomenon that require a deeper understanding, such as in this case where the relationships between individuals are studied (Flyvbjerg, 2006). By using a qualitative case study, it gives researchers an opportunity to use different data collection methods which, in turn, expands the foundation for the analysis (Silverman, 2017). This study uses in-depth digital interviews in order to get an extensive understanding of the overall experiences of people using DCTs and what effect this has had on their relationships. The study started by looking at people's perceptions of digital technologies including DCTs but later developed into focusing on DCTs as people expressed their opinions about this which showed potential for interesting results. Studying the perception of relationships can be difficult but relationships themselves are subjective which gives the respondents the ability to elaborate on their own experience of relationship building and maintenance when working with DCTs. Furthermore, the use of interviews provided in-depth knowledge of the phenomenon which allowed for a greater understanding of the social reality and the context in which it is (Bryman & Bell, 2013). It is unusual to use interviews when using ANT but since the study focused on relationships, which are difficult to observe physically as they are a result of each person's own perception, interviews were deemed suitable to capture the relational aspects sought after in this study. Also, other studies incorporating the ANT approach have recently used interviews as a way to incorporate the role of technology in their studies (e.g. Corvellec et.al., 2020). The reason for doing interviews together with ANT is to get the perception from people of how they feel their relationships have been affected. This would be difficult to assess if doing observations or shadowing to capture the relational perception aspect between people and how it has been affected by the use of DCTs. Even though the study is designed to go to depth in the topic and provide detailed answers, the case study affords the researchers the opportunity to provide generalizable results (Silverman, 2017). By studying multiple cases the study benefits from a variety of input sources as three disparate firms with no a priori connections to one another give a good data set for the study to draw conclusions that can apply to other SMEs.

### **Description of the Case Companies**

*Company X:* Business that has products centered around the control of water flow, namely being products that prevent backflow and flooding of wastewater systems. By producing products to control the flow of water the company is working with preventing floods, controlling sewage water, and rainwater. The company aims to give peace of mind to their customers who are municipalities, industrial and private businesses who don't have to worry about water flows. The company is active in 49 countries around the world and therefore has a global focus on its business. The company employs 24 people in Sweden and has a rapidly increasing revenue. In 2019, they had a revenue of 56 million SEK with the greater part generated from municipalities. This company accounts for 12 of the interviews where

respondents were on different departments and organizational levels such as logistics, sales, product development, and management. At the time of the interviews, all employees who had the ability to work from home were instructed to do so which resulted in the majority of office workers doing that full time. The company has a big focus on continuous change and digital transformation which has resulted in a willingness to try new ways of working.

*Company Y:* This company is focused on research and development, production, and sales of heat exchangers. Heat exchangers and coolers are used in order to keep the optimal temperature of machines which decreases the use of power and in turn saves money for the companies installing them. Typical customers are data/telecom, industrial, and housing companies that have a need to keep their machines operating at optimal temperatures. It was described as a company that previously has been very traditional in its digital technology usage but has recently been forced to move much quicker by using more DCT and office workers sitting in home offices. While they have been mainly reactive in their response to working from home with DCTs, their technological toolbox was good as they had done a large IT investment a few years prior that made them well suited to cope with the situation. The organization is located in Sweden with approximately 60 employees totaling 128 million SEK in revenue in 2019. From this company, 10 knowledge workers were interviewed from departments such as sales, management, and production to get a rich data set for the empirical chapter.

*Company Z:* The company acts in the food storing (heating and cooling) industry by using thermal boxes to keep the content at the right temperature. They sell food boxes to e.g. restaurants, school kitchens, and casinos that need to keep food cool or warm in order to serve it to their customers or students. They employed 43 people at the end of the year 2019 and had a revenue of 110 million SEK that year. The company is growing quite fast as it only had 25 employees in 2015. This company is in a business heavily affected by the recent pandemic as casinos and events have come to a halt. Since a few months prior to the interviews, all office workers were sitting in their home offices which resulted in greater use of DCT. From the company about the same number of interviews (9) as the other two companies were held to get an even data set for the three case companies. The respondents from this organization were of similar positions to the other two companies, collected from many parts of the organizational spectrum with people from logistics, sales, management, etc. A full list of company and organizational belonging is presented in the next chapter.

### **The Respondents**

By interviewing three different companies that had no connections in terms of organizational structure or ownership, the study wished to bring general results that can be applicable for companies moving towards increased use of DCTs and digital work in general. The results are specific to the firms in the study but since they are all individual companies with no connections, and in widely different fields of business, the results should be generalizable. The three case companies (X, Y & Z) are listed in the table below with how many respondents were participating in the study per company. If a respondent had a managerial role they are categorized in the 'Managerial Position' box despite their organizational belonging such as

‘Sales Manager’ as the emphasis is on employees and managers and not on their organizational belonging as such.

Table 1. Organizational function, belonging, and participants

<b>Organizational function</b>	<b>Total</b>	<b>Company X</b>	<b>Company Y</b>	<b>Company Z</b>
Sales & Marketing	5	2	2	1
Accounting & Administration	4	1	2	1
Supply Chain & Purchasing	3	1	1	1
Project & Product Management	6	2	2	2
Managerial Positions	13	6	3	4
<b>Total Participants</b>	<b>31</b>	<b>12</b>	<b>10</b>	<b>9</b>

### **Data Collection Method and Procedure**

Both primary and secondary data was collected in order to be able to combine firsthand collected data with information from other authors and sources in order to draw on previous research combined with own data material (Silverman, 2017). By studying the complex social processes of the problematization presented, a qualitative method was used in the form of interviews (Lind, 2014). Prior to conducting the interviews, meetings were held with the responsible contact persons at the three different organizations included in the study. The initial meetings were not only informative, but specified the intended research topic and the candidates considered to be suitable (people working mainly with DCTs) in order to get a better understanding of the research topic. The choice was made to interview people from different parts of the organizations in order to identify the contrasting perspectives of DCT and their role in relational work. Employees from different organizational functions were interviewed, as case studies need to reflect diversified organizational perspectives as a way to increase legitimacy (Collinson & Tourish, 2015). The interviews, whose respondents agreed to it, were recorded to ensure all data collection could be revisited and cross-checked for the researchers

to code and categorize the data at a later stage. The interviews lasted for between 30 minutes to one hour individually with a semi-structured approach of being able to adapt the questions to the specific interview in order not to miss important information (Adams, 2015). The decision was made to anonymize the organizations and employee names from the quotes taken from the interviews in order to maintain the integrity of the shared data, protect the identities of the respondents, and the activities of the organizations (Allen, 2017). The organizations are thereby presented as company X, Y, and Z while the employees' quotes are only referred to by their formal job titles in order to show where in the organization the respondent belongs and what the company's main business is without jeopardizing the integrity of the respondent and the organization. Hence, the study tries to follow good research ethics by ensuring the participants' anonymity (Silverman, 2017).

### **Interviews**

Interviews were chosen to collect data in order to get to depth with the respondents and capture the nuances of the relational aspects the respondents perceive are affected by the DCTs. As stated, it is all about the fit between the topic and the data collection strategy that decides what approach should be used (Silverman, 2017). Since the goal of the study was to answer the how question related to the research topic it was a good fit with interviews for this purpose. The setting of the study was at SMEs in which primary data was gathered from interviews with employees that were interacting through digital technologies in their daily work. The interviews were conducted in a semi-structured manner meaning that the outline of the interview was not strictly followed (Adams, 2015). When the interviews were carried out the questions were adapted to the answers the respondents provided in order not to miss important information that could otherwise have been lost by simply following a script of questions (Adams, 2015). By interviewing employees with many different organizational belongings, the ambition was to get a broad perspective of DCTs within different segments of the organizations. This allowed the study to collect data that was relevant for an organization as a whole and not narrowly focus on one team or function that could differ from the rest of the organization. The interviews were held digitally as a result of the situation in the world and the restrictions of social distancing (Swedish Public Health Authority, 2021). There are accessibility advantages in a digital interview setting while on the other hand there could be disadvantages in not seeing hidden signs such as body language or other cues that might be missed digitally (Silverman, 2017). In order to avoid this issue, interviews were recorded with cameras on as that is one way the risk of missing cues and body language was mitigated to avoid misunderstandings or hidden signs and allowed for a better understanding of the interviews upon replaying them. This allowed the authors to go back to the material after some time and make sure that the first perceptions and notes from the interviews indeed were correct and in line with the thoughts of the respondents as well as to learn from previously conducted interviews.

### **Data Analysis**

The analytical position of this study has been planned to make sure it is appropriate for the study in order not to cloud the data collected and to be able to draw appropriate conclusions from the same (Silverman, 2017). The data were analyzed in three steps of transcription, coding, and a final categorization of material (Silverman, 2017). The first step of transcription

was made in order to get the correct wording from the respondents and avoid the risk of misinterpreting the answers (Silverman, 2017). Also, it made it easier to write the empirical chapter as quotes were easily attainable in the transcribed material. Further, the interviews have been translated from the respondents' native language of Swedish to English for the purpose of presenting their thoughts in this study. In translation lies a risk in expressions being understood in different ways which is why the authors of this study have cross-checked quotes and carefully made sure that the translation corresponds with what was expressed in the interviews. In the second step, the transcribed material was coded in order to find interesting patterns in the data material and to give it more structure for the analysis. The codes formed a structure in the collected interview material where common patterns and findings in the data were outlined. Codes such as relationships, conflicts, leadership, efficiency, creativity, isolation, and digital tools were used. As the third and final step, the common codes in the data were formed into a set of meaningful cohesive categories that were easily fathomable and later on formed the foundation of the analysis (Gibbs, 2007). These categories were, for example, relationships between actors, efficiency versus creativity, and company values and beliefs. These categories later formed the base of the analytical chapter. Further, an inductive approach was used in the sense to have a data-driven approach to search for patterns in the data (Graneheim et.al., 2017). The risk of using an inductive approach is to get stuck on the surface with just ranking or counting the participants' answers as a part of the total. This possible issue has been avoided by not making simple tables or visualizations of how many of the total respondents said a particular thing (Graneheim et.al., 2017). The empirical and analytical chapter is structured to provide interesting data from all companies without structuring them after their individual company belonging, which is why quotes appear in a logical order to tell a story about the phenomenon. At first, the study expected to find company-specific findings that would allow analyzing the phenomenon on a case company level seeing the differences in how the different organizations experienced DCTs. The intention was to study three case companies with similar structures as all were SMEs that focused on selling physical products to other businesses (B2B). However, it was not possible to distinguish and separate the data on an organizational level, instead, it was more suitable to analyze the data on an individual level as the data did not justify outlining one company standing for a specific opinion due to the similarities in results. Therefore, the study aims at explaining how relationships between actors are impacted by DCTs and the unit of analysis is on people and their relationships instead of the organizational level. This strengthens the notion that the respondents despite coming from different companies with no ties to another had similar thoughts about the effect of DCTs on relationships. Further, the study did not only focus on similarities as it also found some interesting contradictions in the replies which are analyzed further in the analytical chapters. In the summary of the empirical findings a table is presented to show an overview of the general responses from each company in order to easier visualize the similarities and differences in response from the respondents of the three case companies.

### **Ethical Reflections**

By complying with the Swedish Research Councils (SRC) guidelines this study follows the good research practices one can expect from this type of study (Swedish Research Council, 2017). The authors have been fully transparent when it comes to methods, results and the

research made and that everything stated in the paper is done in accordance with the actual procedure described. Much effort has been put into finding results in already existing research in order to build an interesting introductory and theoretical chapter which is why the findings in the same have been judged fairly, in good faith, and making sure not to use any unauthorized research results that could negatively impact the study. When collecting data, interviews have been recorded when allowed by the respondent and then put on a personal storage location for the exclusive use of the authors to work with the material. An important note in this study is that while there are three case companies in the study the authors have not received any compensation for their effort or any other benefits that could impact the findings, all in line with SRCs suggestion to be transparent about commercial interests (Swedish Research Council, 2017). Moreover, a critical point in research is to collect the material from the respondents and when doing this there are three criteria to follow in order to comply with good research ethics (Silverman, 2017). One must inform about the purpose of the study, the method used, and the intended use of collected information (Silverman, 2017). Moreover, one should inform what participation in the study means and if there are any potential consequences (Silverman, 2017; Swedish Research Council, 2017). In order to follow good practices, the respondents were informed about the use and collection of data before the interviews started. This is in line with the SRCs suggestions to inform about the intentions of the study (Swedish Research Council, 2017). Further, the respondents always were asked to give their consent before the recording started. Anonymity was always promised before the interviews started as a way to make the respondents trust the interviewers and to avoid any information being held back as a result of fear of potential consequences from their answers (Silverman, 2017). The practices that were included in order to achieve anonymity from the participants were to collect information and then making sure not to display any personal identifying information (Allen, 2017).

## **EMPIRICAL SECTION**

For the case companies, meetings with the aid of DCTs are one of the cornerstone activities for the functionalities of the organizations in order to share information and make decisions. Both internal and external meetings are crucial for the relational aspects and in order to facilitate the fragile networks of the organizations. At the time of this study, regular face-to-face meetings have been restricted due to the Covid-19 pandemic and companies have been forced to operate mainly through a digital setting with DCTs both internally and externally. In this section, the perspectives of the relational aspects of the organization are presented as well as how they are influenced by the dynamics of the DCTs.

### **Relationships Through Digital Communication Technologies**

As the study aims to capture the relational aspects of DCTs the first section elaborates on the perceived impact technologies have had on individuals.

*Our distributors and producers are located in different geographical locations, and thereby require a lot of travel time. With the DCTs that are now accessible, those can be managed much more efficiently now.* - Production Manager, Company Z

The respondent in the quote is indicating that the distributors and producers can be handled more efficiently now, making the connection that previously there was a lot of time spent managing them. Further, many respondents appreciate the decrease in travel time and the ability to have meetings over geographical distances without having to travel, not only for the time-saving aspects but also for environmental reasons. Others have emphasized that the decrease in travel also means that the organizations are able to decrease their spending as one of the respondents estimated an average trip to cost approximately 2,000-3,000\$ (Product Management, Company X). Thereby, the DCTs enable the organizations to acknowledge and meet their distant partners needs more efficiently. The DCTs have thereby enabled organizational efficiency in most business ends by reducing travel time and the expense of traveling.

*We never talk about personal stuff, like I never get to tell people about my personal life anymore, thereby it is harder to get to know people on a deeper level through the digital setting. This might be one of the most damaging things about working from home, it is so focused on the work and you only focus on performing what you're supposed to and the social aspects are neglected.* - Manager Accounting, Company Z

This was one of the many employees that have been working from home due to the Covid-19 pandemic. Also, what was described is a common theme throughout the interviews and many of the respondents emphasized that working from home with the aid of DCTs has been a challenge in building and maintaining relationships both within and outside of the organization. Others were experiencing that it may be harder to express oneself through digital technologies, especially through text, but through video and audio communication as well. The respondents were very uniform in their perspectives of a digital meeting being more formal, and some even said that they felt “constrained by the time pressure” that digital meetings have. They, moreover, stated that it is equally hard on the other end and in reading expressions as people tend to get more formal in a digital setting, and sometimes one might sit or act in a particular way that they would not have done in a physical setting.

*We have tried to incorporate daily breakfast meetings and similar digital activities in order for us to maintain the relationships within the organization and in order to emphasize the small talk. However, you cannot for example talk separately to people in a digital room when you are in a group meeting, and this is very different from physical meetings and it thereby makes them more formal. I sometimes want to talk to my coworkers about private matters that I do not want my boss to hear about.* - Production Manager, Company X

It is not only the internal communication that is affected by remote work and digital meetings. Several salespeople stress that people want to do business with people they know and that they can trust. It is not only a numbers game, of making the best financial offering, it is also



relational and being trustworthy. Customers tend to value security and being able to have a good relationship with the salesperson rather than just competing on price. Therefore, it is interesting that the sales personnel have spent a long time in their home offices without having the opportunity to travel much.

*I think I have lost touch with some colleagues that I don't interact with a lot over time. Within my team, I don't feel like we have lost so much in terms of relationships and teamwork. We allow for other conversations than just work when we talk but it does not allow us to create the same relationships with new people digitally. I think relationships are the most important thing in a team since you have confidence in your colleagues and strive to achieve the goals you have decided on together. - Product Owner, Company Z*

Over time the respondent has realized that he has lost touch with some of his more distant colleagues which he does not work closely with on a daily or weekly basis. However, within the team that the respondent is working in, the perceived feeling is about the same as when they met physically. While it seems like it works better to keep up with the ones you work with closely, it seems that even if you work closely with someone but they are new in the company and you may not have met them in person then it is difficult to build a strong relationship. If the digital environment does not open up for building new relationships even to the ones you work closely with, the question is whether it is actually the same with close colleagues you have known for a long time. What is hindering the relationship-building between team members and more distant colleagues?

*It is easier to maintain relationships with current customers than building new ones (digitally). But it is much easier to build and maintain relationships when you meet someone face-to-face. Actually, it is difficult to maintain relationships digitally overall... Relationships with my colleagues suffer as well because everything gets more formal. You miss the small talk and don't get to a personal level with people. It is a gradual worsening of relationships I would say, where you can't build a new or better one digitally. If you have a good relationship with someone from the start it is easier digitally and maybe you can ask some personal questions. A new relationship is impossible to build digitally, all you do is follow the agenda and talk about work. - Key Account Sales, Company Y*

The above quote is particularly interesting since the respondent analyzes the situation both with external customers and with colleagues within the company. First, he states that it is easier to maintain than to build new relationships with customers digitally which makes sense since you can skip the get-to-know phase and ask more personal questions. However, it is easier to meet someone face-to-face in order to get to know them. Then upon finishing his thought he adds that, actually, it is difficult to even maintain relationships digitally. In the second section, he adds on to this from the internal perspective as well when he says "It is a gradual worsening of relationships..." which indicates that he has realized that relationships fade away and get weaker over time as he has worked digitally. Finally stating that it is impossible to build new relationships digitally as the meetings are very formal and the only topic is about work which leaves no room for getting to know each other on a deeper level.

*Relationships, in general, deteriorate over time when working in a digital setting. Our relationships within the organization are certainly affected, but more so our relationships with our distributors and our customers.* - Sales Manager, Company X.

This is a quote with interesting statements, and what could be summarized is specifically the deterioration of relationships over time. This is something that is emphasized by a sizable number of the respondents, and many seem to have similar experiences when communicating through digital technologies, namely that it becomes more formal and that the softer values fade gradually. This sequence in particular can be argued to be rather interesting as the respondent mentions the difference between the physical and digital meetings and how the digital technologies are supposed to fill a function in maintaining the relations. However, it can be understood through this sequence that the functionalities of the digital meetings and digital communication, in general, do not facilitate relationships in the way they are desired. She explains the relational aspects as going through different phases, from being fully functioning in a physical setting to gradually shifting in a downward spiral into becoming frostier after communicating through a digital setting. Throughout the interview, she is using the parable of a “long-distance relationship” in which she implies that the relationship gradually deteriorates over time, but most commonly is restored when meeting physically again. This was similarly described by many other respondents, and some even mentioned that the relations ceased to exist due to the work-from-home status, especially those within the different functions of the organization. The respondents that did not mention any of the downsides to digital communication were predominantly people working in the organizational premises to some extent, either close to production or in the office. The ones that experienced difficulties or that felt somewhat hindered by the DCTs were predominantly working with digital technologies, mostly from home but also in the office. Interestingly, some people who worked at the office also felt a worsening of relationships mainly as they did not meet many people at the office and therefore experienced the same long-distance relationship that others working from home stressed.

### **The influence of Digital Communication Technology on People’s work**

Most of the respondents experienced an increase in efficiency initially with the transition to work from home due to not being disturbed, meetings being more efficient, and more adaptable work lives. Some argued that the efficiency was for certain tasks and that it depends on what kind of activity they are doing when working digitally.

*Now I feel like I only have to work 6 hours per day to do the same amount of work as before. Where did the other two hours go normally?* - Project Management, Company Z.

Respondents said that the meetings “are centered around the agenda and there is no clutter” (Administration, Company Y), and that “the availability to ask questions have decreased which have led to personal developments as one have to solve the problems themselves” (Marketing, Company X). The two answers above indicate that meetings tend to follow a clear structure with less possibility to go outside the agenda. “There is no clutter” seems to refer to informal

conversations and talk about other things than work which makes them task-oriented in their meetings. This is probably how people feel that they are more efficient as meetings follow the agenda with fewer side-tracks and distractions. The second quote says that the availability to ask questions has decreased which has resulted in a greater responsibility to learn by themselves. While this may suit some individuals who enjoy working by themselves and taking responsibility, it might be negative for others who are more reliant on colleagues to make decisions or need to ask questions to understand the information. Furthermore, the perceived flexibility of the digital setting seems to have resulted in organizational efficiency, but also in “more meetings being organized one-on-one rather than in groups” (Administration, Company Z). This might seem somewhat contradicting and even though it is argued to have a positive impact on organizational efficiency in the short run, the relational aspects are later on emphasized as being affected negatively by DCTs.

*People are in general preoccupied with different things and it is harder to get a hold of people in a digital setting. Thereby efficiency decreases as the waiting time is longer. In production close contact is necessary and actions need to be taken in no time, and with the delay of digital communications it slows down the efficiency. - Production Manager, Company Y*

Some say not being disturbed increases efficiency as they can sit in isolation and focus on their tasks. On the other hand, if people are sitting by themselves not answering messages or calls from others there is a risk for bottleneck situations where other colleagues are waiting for information and are not able to perform their own tasks efficiently. By that, some other people may be slowed down creating a domino effect of bottlenecks where some tasks get done efficiently while others are slowed down waiting to be solved. Probably, the efficiency depends on the position and the situation of the individual as some people need a lot of interaction in order to complete their tasks while others do just fine working alone without much aid from others.

*It gets more formal when you work digitally. The meetings I have been at are more formal and structured than physical meetings. Before the meeting starts you can talk about other things to some extent but everyone in the meeting will hear what you say so it's not as private as a normal chat around the table. Further, if you have a pause and a coffee break everyone speaks at the same time. I think you lose the softer values in the digital environment which is a shame. When there are conflicts, problems, or moments of stress I don't think a digital meeting is as good as it doesn't feel personal and it's also more difficult to understand each other. - Market and Sales Manager, Company Z.*

It seems digital meetings are perceived to be more formal, more structured, and increase efficiency which is something a majority of the respondents in this study have emphasized. Many respondents say that they are more efficient and get more done in less time when they work from home. However, while the perceived increased efficiency comes from less disturbance from others it also seems that this efficiency to focus on one's tasks and work with fewer distractions has negative consequences. There seems to be a more task-oriented focus and structured meetings while the social values that people perceive to be important for

themselves and their teams get less attention. The efficiency comes at a cost as the natural breaks that take up time gives energy and sparks creativity as is emphasized in the below quote.

*It is clear to see that when we meet physically we can make things happen rather quickly, and thereafter it is only a downward spiral until we meet next. Even though the digital meetings are supposed to facilitate our relationship, it does not have the effect that we desire. The number of projects decreases gradually after our physical meetings have taken place and are then back to a normal state the next time we have our physical meeting again. Thereby, some tasks work perfectly fine in an online setting, but the soft values and other immeasurable matters experience major repercussions (when working with DCTs). – Sales Manager, Company X.*

This quote is particularly interesting due to the distinguishment between physical and digital meetings that the person refers to. It is perceived that some tasks are better performed in a digital setting when it does not require efficient teamwork and creative thinking such as working on projects. It seems like the person can relate to some meetings attended recently when people met in person and consequently got energized by it to make things happen fast. After the boost of energy from the physical meeting, this motivation gradually decreases until the next physical meeting is held. It is rather interesting that physical meetings are perceived to spark motivation and drive people for a while, simultaneously as digital meetings are perceived as the polar opposite, or at least not contributing with similar qualities. The fact that the number of projects is decreasing when not working physically together seems to stem from digital meetings sparks less creativity. Therefore, it seems to be dependent on the performed task to determine what mode of communication suits best. For informal meetings that follow a clear agenda, the digital setting is argued by the respondents to be a great fit, while physical meetings are more suitable for meetings where creativity or change is the focal point.

### **Work Units in Isolation**

Many SMEs are known for their close-knit relationships with the other people within the organization as they work closely together in small organizational contexts (Erdem & Atsan, 2015). This is normally the case when working at the office where everyone is physically close to one another and can easily reach the ones they want to converse with. However, digitally this does not occur normally according to the respondents of the interviews as meetings tend to get more formal and the check-ups do not occur as the natural information sharing situations such as bumping into one another or having coffee breaks together are not happening naturally in the same way.

*You work more in isolation, more by yourself digitally. We have completely lost our connection with the other team that we previously worked closely with since it's only their manager participating in the meetings. You lose the connection with everyone except for the ones you work closely with. Since, the managers' report to the others, the employees don't say anything, and therefore we don't speak to them. - Production Planner, Company Y.*

The above quote describes how some feel more isolated and more left by themselves digitally. At the same time, while the team that the person is working in seems to still have a good spirit, the person also describes how they have lost their relationships with the previously close team members of a related function that they were working with. Now the team members only have contact with their own manager or the other function's manager and not the team members on the other function. This means that the teams work in complete isolation and that the team managers are the only point of contact between them. It seems normal as well that conversations are not initiated between the different teams until a problem or a work-related issue arises. Therefore, when they don't share tasks or have the same problems there is no excuse for reaching out which leads to isolation and focus on the tasks they are to perform.

*The situation has changed with different colleagues. I have worked very closely with one person before for many years and I have to say that nowadays we sit in our own chambers. He has less acceptance that we don't have time to cope with the workload sometimes... Instead of solving issues around the coffee table, people tend to complain to managers or point fingers at each other. I would say that I think there have become higher borders between the teams. - Project Management, Company Y.*

Some respondents thought the importance of knowing people from before was key in order for the relationship to work digitally. To some extent that might still be valid, however, it is not as simple as getting to know people face-to-face, and then everything will work out fine digitally as the above quote describes. Even though the two have known each other for many years they get into more arguments and involve managers in conflicts to an extent they did not do before. The respondent explains that the situation has changed from before and that they are not solving issues between them like they used to.

*The groupings within the company increase as people only are in contact with the ones they need to be to perform their daily tasks. This leads to an increased feeling of we and them within the company which really is not good for the company as a whole since it makes processes functioning worse and leads to arguments due to lack of understanding. - Sales, Company Y.*

The isolation between people and between teams increases as the communication that occurs naturally to just check-up or for information sharing does not occur digitally. This is perceived to lead to an increased feeling of isolation between the teams where different groups feel like they are not sharing the same objectives which in turn leads to arguments and hick-ups in work processes between teams. There seems to be a common view that working digitally and communicating through digital technologies leads to isolation, not only for individuals but also, for teams as they lose their natural bonds with other teams within the company. This increased distance is leading to arguments which further worsens the relationships between teams and people.

### **Keeping a Company's Sense of Belonging**

The organizational values are important in order to make them and the people within them flourish and they can be described as the implied beliefs and behaviors that work as guidelines

for the interaction of management and employees and how they handle outside business transactions (Tarver, 2021). Thereby, organizational values are centered around the soft values and the social aspects and are a foundational element in all types of organizations, no matter if they are large or small. However, the corporate code could vary vastly in a digital setting compared to a physical setting and could be argued to be harder to maintain in the digital setting as the soft values are somewhat faded. With the transition from working in the office to working from home through DCTs, it is mentioned by many of the respondents that they are “afraid that the corporate culture will vanish as the contact with the different functions of the organization is absent” (Production Manager, Company Y). It is also mentioned that the meetings oftentimes “are organized one-on-one rather in groups” (Production Manager, Company Z), and this might also have an effect on the company’s sense of belonging and the teamwork between the work teams.

*In order to have a team that is fully functioning and cooperating the soft values are equally important as the business transactions that we work with. I knew my colleagues before we started working from home, but have experienced that the conversations have gotten more business-centered. Thereby, I can imagine that for newly employed it would be rather difficult to get to know your colleagues. The five minutes of chitchat that is spent between the meetings in a physical setting have disappeared. - Product Owner, Company Z.*

As stated by the respondent, a fully functioning team is highly affected by the soft values of an organization and the corporate values. This could mean that a malfunctioning or simply not distinct corporate culture could be detrimental for the organization. As mentioned by many of the respondents, the DCTs seem to exaggerate the operational efficiency at the same time as they restrain the small talk. This rather formal digital setting thereby leads to “people not getting to know one another on a deeper level, which in turn has an effect on the corporate culture” (Product Manager, Company Z). One of the top managers in one organization also mentioned that it is rather hard to maintain what they have through a digital setting. He together with many others mentions the small social interactions that happen at the office or between operational tasks are what creates the culture of the organization, and this is where bonds can be created for a team.

*I believe it is difficult to maintain what we have (when we work digitally). It is like the drop of water that hollows the rock after a long time, unfortunately, I think that this hollow occurs when you work digitally away from each other. Everyone keeps their channels clean and communicates with the ones they need to talk with but it is the grease between the moving parts that is important which is created during lunch, pauses, and coffee breaks. This is lost now since people only talk with the ones they need to talk to in order to do their job. You cannot talk informally digitally nor steer the conversation to talk about what I really want to talk about. In a physical setting, I can say something personal about myself that opens up for other people to do the same without everyone hearing it or having to comment on it. – Manager, Company X.*

The manager responding in the above quote has realized that communication is different digitally as everyone seems to do their job just fine as they communicate with the ones they

need to in order to get it done. However, this could mean that some people are left by themselves not having much contact with others depending on their role in the company. The metaphor of water hollowing the rock describes how the people that previously have been close and known each other seem to gradually lose touch which leads to the rock being hollowed. The respondent describes the rock as the relationships in the organization which slowly deteriorate over time due to the influence of DCTs. This in turn has a perceived negative effect on the company culture and values as people do not feel as close anymore. Further, the next metaphor is also useful in understanding the perceived development of the people within the organization. The grease between the parts is thought to be created during informal events when people are “off the job” or more at ease, not only talking about work-related tasks and can be more personal and freer in their communication. These situations do not occur naturally in a digital environment and if they are created the meeting does not allow for private conversations between fewer participants which hinders the informal talks. This leads to a distance relationship kind of behavior where people want to socialize and miss the social elements of work but the digital environment does not support this behavior as well as the physical office environment. This gives rise to the perceived distance relationship where people feel secluded and not able to build relationship grease that prevents arguments, smoothens group work, and helps people feel good at work.

*I travel with my subordinates in order to build team spirit and preserve our corporate culture. Our corporate culture emphasizes creativity and daring to try new things even though it could lead to failures. But this along with many other social values are extremely hard to transmit in a digital setting as more force is needed. In a physical setting, those things are taken for granted as they come naturally, and thereby I have tried to organize social activities such as workouts, walks, etc. in order to maintain what we have. - Sales Manager, Company X.*

Many activities can be done to strengthen the corporate values and culture digitally as well as in a physical setting. While the activities listed by the respondent are done in person, there can also be other alternatives like virtual coffee breaks that others have mentioned. However, it seems clear that managers perceive the physical setting as superior to the digital one when it comes to building and strengthening corporate values and culture within their teams. When they meet in person, they feel like they understand each other better and are able to transmit their values and beliefs in a better way than digitally. Whether this is the result of a habit of meeting physically or not is hard to say but the companies in the study have been working digitally solely since months back and have certainly tried many ways to fill the gap of not meeting in person.

*Imagine a soccer team that solely gets tactical instructions; can this even be followed without having close social bonds and understanding of each other's strengths and weaknesses? I think that an organization is much comparable to this and a team is facilitated by social interactions between the different functions. If we can make ourselves better by understanding each other we can accomplish much more, but with work being moved to a digital setting it feels like the social aspects have been hindered between each and every one of us, and especially between the different functions. - Supply Chain, Company Y.*

The comparison with a football team works well in this case as the respondent explains how it feels like there need to be social bonds between people in order to understand each other and to build a well-functioning corporate team. It seems like the person really feels a lack of belonging with the rest of the company as it is emphasized that the social side especially with other functions has suffered when working from home. The quotes in this section paint a truly coherent picture that the respondents don't feel the same belonging to their colleagues and company when they communicate digitally and don't get to interact informally with their colleagues. It is implied by many respondents to be a technological barrier here that does not allow for these informal situations to present themselves using DCTs.

## **SUMMARY OF FINDINGS**

It is apparent from the quotes in the empirical chapter that people within each organization can have varying perspectives of DCTs in general and that many see them as hindering relationships in general while some believe that it works fine to keep in touch with the ones you already know well. The main idea is however that relationships are difficult to build and maintain internally and externally with DCTs. As a result of the similar thoughts and no significant patterns differentiating one case company from the other, it is difficult to separate the organizations as standing for one particular view. Rather, most respondents from the three companies had similar views of working with DCTs in isolation from physical contact with each other. In the situation where the organizations have been forced into working remotely and using DCTs more frequently, the relational aspects cannot be disregarded. The organizations' close-knit relationships are highly important for the sense of belonging and the constant use of DCTs creates an environment that allows for a more efficient exchange of information and is fruitful for work efficiency in general. However, it seems to be an inhibitor for the respondent of the interviews to work digitally as it is not as easy to understand and to build close relationships with other people in a digital environment. Many respondents claim that while work is more efficient digitally, they miss their colleagues and being present physically at the office since that allows for a different kind of communication where informal conversations are important as the glue that ties the colleagues together. It does not seem like DCTs allow for relationship building and maintenance to be done the same way as traditional face-to-face interaction which gives the respondents the feeling of poor functionality of the DCTs. While maintaining relationships is not perceived to be optimal through DCTs it is evident that the respondents feel almost helpless when it comes to building new close relationships with customers or colleagues that they did not know prior to working mainly in a digital environment. Some respondents claim that it is impossible while others think that it can only be built to a certain extent digitally which stresses the need for meeting in person to be able to really get to know one another. Further, as a result of the poor relationship building with DCTs, many perceive the companies' culture and values to have been affected resulting in more conflicts, struggles, and isolation between actors and teams.



In the below table a summary has been made on the main findings of the empirical chapter where the most common views of each company can be compared to the other two case companies. The findings do not differ much between the companies as a majority of respondents at each company had similar opinions. Therefore, a table is made so that the similarities between the case companies can be easier visualized in order to strengthen our position that the analysis can be made for the three companies together. However, as the data gathered was so similar between the organizations, the unit of analysis is not on the organizations as a whole, but rather on the individuals and their perceptions of relationships as this is more interesting for the study. The text boxes summarize the answers retrieved from the three case companies.

Table 2. Summary of Empirical Findings

<b>Empirical Findings</b>	<b>Company X</b>	<b>Company Y</b>	<b>Company Z</b>
<b>Creativity</b>	Physical meetings are more suitable for creativity (drawing on the board etc.).	Harder to be creative in the digital setting.	DCTs do not allow for creativity in the same way a physical meeting does.
<b>Efficiency</b>	More efficient in the digital setting (same work task/meeting takes less time).	Less time wasted in meetings and small talks by the use of DCTs.	More efficient as one can avoid getting disturbed in the digital setting and focus on your own tasks.
<b>Relationships</b>	Work better through DCTs with the ones you know already. Gradual erosion between teams and people.	More conflicts and arguments when operating in a digital setting due to isolation of individuals and teams.	Gradual worsening of relationships when working exclusively with DCTs.
<b>Teamwork</b>	When working in a digital setting people tend to contact the ones they need to contact to get the job done solely.	Teams are not in contact in order to perform tasks in a digital setting, only individuals are.	Managers are kept informed and interact with each other but the employees sometimes feel isolated and uninformed.
<b>Company Values</b>	Difficult to share and agree on when operating in a digital setting.	Especially difficult for new employees in a digital setting.	Harder to shape the employees with the company values in a digital setting.

## DISCUSSION

### **The Role of Technology as Mediator in Relationship Building and Maintaining**

For the case companies, the accelerated use of DCTs has increased significantly as all of the case companies have been hindered to meet physically. This has led to DCTs being a cornerstone element for the functionalities of the network as a whole and to build and maintain relationships. For the companies which have been operating predominantly remotely and through a digital setting the DCTs have been working as a facilitator of the network as a whole and have made it possible for the organizations to continue their operation without major setbacks or stops of businesses. Two of the three case companies have an increase in sales while the third was exposed to declining sales as their business was negatively impacted by the pandemic. On the other side, two of the organizations have done better results during the year 2020 that consisted of restricted physical meetings and communication with the aid of DCTs. Part of the companies' results comes from the ability to adjust to the rapid changes and embrace the situation by adapting their ordinary work and making digital adjustments by use of DCTs. Also, for the thriving companies, their businesses were those whose customers were not heavily affected financially while the third company was doing business with restaurants, casinos, and event companies which impacted them negatively as the majority of those operations were put on halt with the global state of the Covid-19 pandemic.

The pandemic state of the world has turned a much larger focus on the digital functions of companies such as in the case of the companies in this study. However, the network between people is most often not reflected upon until it turns into a malfunctioning one, and this is the moment where one starts to see what actors constitute the network and identifies the entities that hinder the functionalities of the network (Latour, 2005; Callon, 2001). This is what has happened in the case of this study where the three case companies have been aided by DCTs before but have had the opportunity to interact face-to-face in order to smoothen the hinders of DCTs. When this happens, it is often referred to as an opening up of the black box as the parts of the network suddenly become visible. The network and the DCTs have been somewhat taken for granted and seen as intermediaries of the network that through an input has given a predictable outcome for the people in the network. However, in the situation of the study the black box has opened up for the respondents and they are now considering all the individual bits and pieces of the network allowing the researchers to study what is actually happening with the relationships in connection with DCTs (Latour, 1986; Law, 1992). While the communication technologies have previously been a part of daily life in organizations, no one really reflected upon their meaning in relationship building and maintenance. They have been thought to have an intermediating role in organizing by allowing workers to communicate freely and transmit messages sent through the medium. However, upon opening the black box the respondents were restricted to the use of DCTs and have now realized the tools act as mediators shaping and transforming their messages. The respondents stress the increased number of conflicts between individuals and teams within the companies as a result of the mediating role of technology where the message is shaped in a way that is different to the one in a traditional physical setting. Further, this has led to people within the organizations experiencing friction in their relationship building with the other actors of the network both

internally and externally. This unintended friction and inconsistent outputs that are caused by the DCTs thereby leads to changes and unpredictability for the network which was not the intention in the first place.

Networks are often thought to be predominantly consisting of intermediaries, however, our case shows this is not the situation in the case companies. Instead, the networks are predominantly consisting of mediators creating friction within the network which leads to inconsistent or differentiating outputs on each occasion (Latour, 2005). This study shows that when being isolated in a network facilitated by DCTs it does not allow for intermediary actions from people in organizations to make up for the role of technology as a mediator and it then results in disturbances of social relationship building and maintaining. The study has found two reasons for increased friction between the entities of the network when being facilitated by DCTs. The first one being, the message itself is shaped or transformed which distorts communication between actors who are no longer able to have the same kind of relationship as in a physical environment. The second reason is the people that are using DCTs tend to act differently in their way of communicating which turns the DCTs into perceived mediators. The changed way of acting when communicating with DCTs may not be intended but could be more an effect of how the technology is built as it is an aid for organizations to perform business-related tasks in a digital environment. The technology is mirroring business situations which leaves little room for the relationship building that people in the case companies are used to. This goes in line with the respondents of this study who have stressed a behavioral change of people using DCTs where it is not socially acceptable to communicate with others unless there is a business-related matter that needs to be solved. Also, in the way that DCTs are used it turns into a perceived mediator for people in their efforts to talk about private topics as DCTs are designed for work purposes. One example of that is when having meetings through DCTs, separate conversations within the group cannot go on simultaneously if it is not intentionally arranged by the meeting host. This could, of course, lead to less talk about non-work-related tasks which seems like a positive thing from an efficiency perspective, but on the contrary, the business also consists of relationships between internal and external parties which are important to the company. Many respondents that are working with sales stress the importance of close relationships with customers in order to achieve results. Similarly, respondents who work with suppliers or mainly internally in the company also stress relationships' importance to speed up the process and to the smoothness of performing daily tasks that would otherwise take much longer. Therefore, while many experience a faster and better working efficiency when working through DCTs, mainly in meetings, there are potential downsides as well. For example, many respondents have said that creativity does not flow well in the digital setting as it inhibits the participants to do the more creative tasks of drawing on the board, splitting up in teams and having multiple conversations at the same time. This is perceived by the respondents to be a downside to DCTs which could lead to long term negative consequences for the companies.

Furthermore, by adding the concept of affordances and constraints, the network was at first experienced as being afforded by the DCTs as it increased the efficiency of the organization and the network as a whole. The possibilities of being able to communicate with different global partners with ease and without having to waste time on travels or waiting in meetings introduced perspectives of how much more efficient they got with the DCTs both

with reductions in time and costs. However, this also had major effects on the relational aspects and the soft values which might not have been reflected upon initially. It is clear after analyzing the interviews, that with the increased use of DCTs the actors started to reflect upon the network and the actual usage of the tools, and therefore DCTs became mediators of the network as they had an effect on the actual output and created friction for the intended message. DCTs were initially perceived as an affordance for the network as a whole as they gave the human actors the possibility to facilitate their relationships even with the restrictions of physical meetings. The DCTs thereby enabled a pathway for relationships to be facilitated, and some respondents reflected on if this would be the only mode of communication and the place where relationships would flourish in the future. However, after discussing with the respondents it seemed that most had come to a realization that by using DCTs as the only mode of communication it will actually raise the efficiency initially, but simultaneously create an excessive amount of friction as the small talk and personal relationships are neglected. Thereby, it turns the DCTs into a hindrance for the relationships to flourish in the network as it is difficult to not be constrained by the DCTs agency of being built for work-related tasks which are not always optimal for relationship building. Thereby, the DCTs are instead perceived as a relational constraint for the network as a whole if used in isolation from physical communication. In order to leverage DCTs role as mediators, respondents have suggested a combination of physical and digital communication as an option for strong relationships with fully functioning networks of actors. Likely, some work tasks are better suited for the digital environment where peace and quiet is needed in order to focus on individual tasks or certain parts of the job. Therefore, companies and their employees can learn from the experiment of being forced to use only DCTs and take the best of it while holding on to the important relational activities which are not perceived to work as well in a digital setting.

### **Relational Erosion Between Actors**

Most respondents in this study say that the DCTs and the new way of working are here to stay and that most of the current work processes will remain in a digital environment. Looking at the phenomenon from the perspective of mediators and intermediaries, it is supposed to be the way that communication technology is just an extension of one's personality through an intermediary technology that makes it possible to communicate over distance (Leonardi, 2011). It seems, however, that DCTs prohibit the actors from using the technology to communicate the same way they used to do in a physical environment and thereby instead shift into being perceived as a mediator. This way of looking at digital communication technologies as mediators that influence the way people communicate with one another may seem like something that belongs to a society where the tools themselves are poor which prohibits the actors from communicating properly. One could be excused for thinking that poor internet connection, lack of skills using the technology, or poor functionalities were to blame for the perceived encapsulation of individuals in a digital environment. However, upon asking the respondents in this study, this was not mentioned as a reason by anyone. Some respondents thought that they could learn to use the digital communication technologies better and get more skilled using the functions, but it was not thought to be a factor for poor communication. Instead, people felt that their colleagues were acting differently when communicating digitally as compared to the physical meetings as they were not as open to discussing personal or non-

work-related matters. It seems that people are becoming more operational when working digitally zooming in on the tasks in front of them and then only interacting with the people they need in order to solve the same tasks. One respondent said that if he would contact someone at his company without actually having an issue or asking about something related to work this would be perceived to be odd and that they would wonder if he had nothing to do at work. While just talking about nonsense in a physical environment might not be appreciated either, there seems to be a greater acceptance for bonding and talking about non-work-related tasks when seeing each other face to face. Another explanation for the relational isolation between actors is the technological tools used by the companies as they are not made for relationship building over time. Many popular tools like zoom and teams have functions centered around the effectiveness of a meeting, and for communicating at work, often in shorter sessions, meaning they are centered around work tasks instead of actual relationship building activities or meetings. The respondents have emphasized that the tools have the features one would need in order to perform work-related tasks but hinders the previously informal relationship building activities from the physical meetings such as small talk, informal coffee breaks, and bumping into each other in the office.

Technology, thereby, seems to have constraints in the way it is designed as it is designed for work and not for relationship building or informal conversations, and because of that it is constraining the people who are used to being able to do this. As Leonardi (2011) stresses, technology is built by someone in order to respond to a certain need, and as a result, it is designed for a purpose that influences the way it is supposed to function. Technology, therefore, has constraints which in this case encapsulates people in their bubbles shaping them to become more formal with each other which hinders them to build and maintain close relationships. This leads to the concept called 'relational erosion' in this thesis which is a metaphor for the relationships being grinded down over time as a result of lack of relationship maintenance. Erosion is the gradual grinding down or weathering of material in nature, like for example rocks or soil that gradually dissolve by natural forces such as wind, rainfall, or sun (National Geographic Society, 2012). This metaphor of erosion could be much related to what is experienced by the staff at the organizations studied as they are exposed to concerns when it comes to the relationships both within and outside of the organizational grounds. It is described, by the respondents working remotely solely through digital technologies, that the personal touch gets lost and that people are not talking about anything aside from work, and this is argued to be an important piece to the actual gradual deterioration of the relationships. As the DCTs are supposed to fill a function as an intermediary in a network by transmitting information from one end or one actor to another, it is taken for granted that it will not have an effect on the relational aspects. However, the DCTs are not filling the function as was expected and desired in the first place. Instead, they are perceived to be a mediator that, with their presence, constrains the small talk and the soft values that are so precious for the relational aspects of the organization. Thereby, the DCTs could be argued to both contribute to a more efficient work environment but can be detrimental for the relational aspects if used exclusively - leading to relational erosion. This is thereby something that should be reflected upon on all organizational ends in order to find a solution to the relational erosion and instead find matters that are building relationships or filling in the holes that are ripped open by the destructive use of DCTs.

### **Work units Exercising the Long-Distance Relationship as Isolated Islands**

The concept of technological affordances and constraints has been popular in the literature due to its ambition to explain how technology influences people in their interaction with technologies (Leonardi, 2011). While most would agree on technology having an influence on people it has many times been attempted to try to explain how it influences people. While this is not necessarily the ambition here, to list factors that are influencing, rather the ambition is to explain how relationships are influenced by the extended use of digital communication technologies. The technologies used for communication are mainly meeting and collaboration applications like Zoom and Teams that come with their functions and designed interfaces towards the users. This means they have affordances in what they can do for the user such as making calls, creating chats with colleagues, or having meetings in order to meet business needs for the companies working in a digital environment. While these functions are supposed to mirror the conversations of how business is done in the physical environment there are inherent differences in the way these tools function compared to how one would interact in a physical environment. There is a clear focus on meetings where meetings are booked with one or several people that call into a virtual space where they have the option of showing themselves with cameras or remain a gray figure in the background. This function is clearly a good supplement to physical meetings as they can bring people together over long distances into the same digital space. The meetings resemble somewhat a physical meeting with the exception that everyone hears what you say, people cannot hold separate discussions at the same time and are sometimes not visible to the other meeting participants.

Despite the few constraints of the technology, it seems that digital meetings are a good complement to the physical interaction due to obvious timesaving and convenience benefits. However, a majority of the respondents have stressed a feeling of being more isolated and less personal when using DCTs. Digital meetings are thought to be one of the villains in why people feel isolated when working digitally without the closeness of other colleagues, external customers, or suppliers. It seems though, the meetings are not so much to blame, rather it seems to be the time between meetings, the coffee breaks, and informal conversations that are no longer naturally occurring in the digital space. While the technologies are made to work as supplements to the physical work environment they succeed well in terms of work-related tasks as respondents emphasize the efficiency and time-saving benefits. On the contrary, they don't seem to work well for social human interaction which is important for relationship building especially in SMEs (Beugelsdijk et.al., 2006). The technology has constraints as it is made for work and work-related tasks, it is not made for leisure time and bonding with colleagues. In the case companies, however, the respondents complain that they have lost touch with their normally close colleagues, suppliers, and customers as they cannot seem to keep the same close relationship they had in the physical business environment. The conflicts, blame games, and turnover of people seem to be affected by this when people no longer feel as close to one another as a result of the digital business environment where they use DCTs. The respondents refer to themselves as social people who are motivated by social interaction and building relationships with others. When the social elements of work fade due to the impact of technological constraints, due to DCTs, people feel isolated, overlooked, and less motivated.

This is clearly negative for the companies when people are in a distance relationship kind of state that leaves them unsatisfied with their social relationships at work.

The distance relationships between employees, suppliers, and colleagues have one more perceived side effect, argued by the respondents in the study that the sense of belonging as a team and as a company has eroded over time when working digitally. When discussing how to create a sense of belonging in a digital environment with the managers of the different companies, many say that they are not sure how to improve this sense of belonging when they are not meeting physically. Most of the more obvious team-building activities within companies are after work and gatherings for dinner, events, or sports of different kinds. In a digital environment, there are not yet obvious activities that people feel like doing such as after-works, celebrations, pub runs, etc. Yet, the sense of belonging is not just built during these activities, it is also as many respondents say 'in the walls' of the building. The respondents said when they are in the building they can see the history of the company, posters, signs, and old pictures which fosters a sense of history and culture which the company wants to bring forward. This leads to the dissolving of the unity that the companies previously stated they felt amongst themselves. Teams and people become isolated islands that get a life of their own where the only contact with the outside world is made through the work tasks they have with other people. This makes the employees feel less attached to the company which decreases their motivation as they cannot feel the same sense of belonging as they previously did to the rest of the company.

So, are digital communication technologies all bad? Many respondents argue for increased use of communication technologies for the sake of better time management which they say is positively impacting productivity. The increased efficiency where people feel they get more done in less time is important for the performance of businesses in the long run. It seems, however, working with DCTs is a double-edged sword where people like the affordances but resent the constraints. It is doubtful, however, if DCTs can be blamed for people sitting alone in their home offices not talking to other people unless it is business-related. DCTs could have some constraints such as not seeing all the cues, body language, and settings of the other people. Although, these constraints lie mostly on the user as they are mitigable by using the tools in a way so these cues and body languages are visible for example by using the camera, showing the upper body so body language is visible to others and make sure to have good lighting in the room. Whether it is technological constraints or human preferences to blame for the feeling of isolation between individuals and teams in a digital environment, it seems humans need to interact socially and see other people in order to feel satisfied at work even if it does not have an immediate impact on the job quality or the financials of the companies.

## CONCLUSION

### **Implications for Research**

This study aims to answer how relationships are impacted by the use of DCTs. While previous studies have found implications for the well-being of employees working digitally (Bordi et.al., 2018), the increased flexibility when working digitally (Entschew, 2019), and the increased pressure on employees when using DCTs (Barley et.al., 2011). Other authors have studied the relationship between change in organizations and change of technology by looking at the materiality in various situations (e.g., Orlikowski, 2007; Leonardi and Barley, 2008). This study seeks to add to previous research by an in-depth case study of three SMEs that have been forced to operate through DCTs where implications are found as to how DCTs impact relationships at work. The very essence of the ANT and technological materiality approaches is their attempt to incorporate the role of technology and the way people are interacting with the use of it in organizational studies (e.g., Leonardi and Barley, 2008; Latour, 2005; Orlikowski 2007; Carlile et.al. 2013). The theoretical perspectives applied to the study benefited from an enhanced understanding of the problematization at hand and can now display a clear perspective of how DCTs affect relationships at SMEs with a lens of ANT and materiality. By doing a qualitative case study on three different organizations and collecting data through interviews, a comprehensive understanding of the affordances and constraints that DCTs had on organizations as a whole, the network of the human and non-human actors, and the relationships between individual entities were found. It is clear to see that the individuals communicating through DCTs were afforded by the efficiencies that DCTs enabled for the individuals and the increased autonomy possibilities of the same. However, those perceived efficiencies that were afforded by the DCTs had evident effects on the relational aspects of the network and constrained people in exercising their relational work. Due to this, DCTs were prior to the Covid-19 pandemic seen as an intermediary that was somewhat taken for granted and that delivered predictable outputs on every occasion for the case companies. However, after the exclusive usage of DCTs without the aid of face-to-face communication, people started to realize the friction that was created and how the relationships slowly eroded over time with conflicts, isolation, and less motivation as a result. Thereby, the DCTs that once were perceived as an intermediary affording the network to operate more efficiently instead became perceived as a mediator that not only affected the output of the intended messages but constrained the network in creating deeper connections between the entities and a sense of belonging that slowly faded away from the organization. The DCTs thereby dispatched one entity after another into a disoriented workspace where social distancing came to delude the relational importance of the networks.

### **Implications for Practice**

In order to avoid DCTs as mediators, it is highly important to understand the relevance that a physical encounter between people can have for humans operating in a heterogeneous network. Taken together, a physical setting can materialize dominating benefits in relational construction and maintenance work which has not been achieved through the DCTs in this study. However, with the continuous development of technologies, there might be DCTs in the future that enable



or at least can closely capture the benefits perceived in a physical encounter. With the tools available in business today, the aspirations of digital communication being the one and only mode of communication is not realistic due to the downsides faced as a result of it. On the contrary, one cannot blame DCTs for the lack of initiated contact between people in organizations or the perceived superficial communication. As a result, there might well be people that need to learn and develop their skills working with DCTs, not only the tools themselves in need of improvements. As of now, the vulnerable networks of human and non-human actors are highly dependent on the benefits of the physical meeting. Thus, an optimal situation for an organization operating in the business climate of today would be a combination of the efficiency that is afforded by DCTs in combination with the features of the physical meetings in order to avoid relational erosion and achieve organizational prosperity. While communication technology is not negative in itself, this study has shown that neither technology nor people are ready to work in a merely digital environment as that has negative consequences on people's relationships with others. While two of the companies in the study have improved their financial results while working digitally, it seems people are the ones who suffer in this climate, not necessarily the businesses or its technological tools. As a final note, the person who wondered what he normally did during the two hours per workday left upon finishing his tasks probably was building and maintaining the relationships in the physical workplace.

### **Suggestions for Future Research**

While the situation in the study is somewhat extreme, due to the fast-paced change that happened as a result of the global pandemic, it allowed for this study to contribute to research in ways that otherwise might not have been possible if smaller companies were not forced to move fast and without hesitation to a digital environment with full use of DCTs. The companies in the study have the digital capabilities necessary to perform their job digitally since that was not a hindering factor per se. While there are no large immediate effects impacting businesses working only through DCTs it has an eroding effect over a longer period of time isolating people from each other. It was rather the relationships that suffered from not having the close-knit relationships that SMEs are known for (Beugelsdijk et.al., 2006). It was found that people feel relational erosion, isolation within teams, less motivation, and more conflicts when the company's sense of belonging fades and sparks the interest in several related topics. The study has opened up the door for further studies in this area looking to find aspects that this study did not focus on. Therefore, the following themes are suggested for future research:

- Studying the development of social relationships over time, when working solely with DCTs, in a case study.
- A study where the benefit of increased efficiency in terms of financial performance from mainly working with DCTs versus the erosion of relationships is explored.
- To study how companies can implement and sustain their company's values through digital communication activities.

## References

- Adams, W.C. (2015). *Conducting Semi-Structured Interviews*. In Handbook of Practical Program Evaluation Doi:10.1002/9781119171386.ch19
- Allen, M. (2017). *The sage encyclopedia of communication research methods* (Vols. 1-4). Thousand Oaks, CA: SAGE Publications, Inc doi: 10.4135/9781483381411
- Avolio, B. J., Sosik, J. J., Kahai, S. S., & Baker, B. (2014). E-leadership: Re-examining transformations in leadership source and transmission. *The Leadership Quarterly*, 25, 105-131.
- Barley, S. R., Meyerson, D. E. & Grodal, S. (2011). Email as a source and symbol of stress, *Organization Science* 22(4): 887–906.
- Beugelsdijk, S., Koen, C., & Noorderhaven, N. (2006). Organizational Culture and Relationship Skills. *Organization Studies*, 27(6), 833-854.
- Blaschke, S., Schoeneborn, D., & Seidl, D. (2012). Organizations as Networks of Communication Episodes: Turning the Network Perspective Inside Out. *Organization Studies*, 33(7), 879-906.
- Bloom-Feshbach, A., & Poyet, M. (2018). The Rise of Digital Team Building. *People and Strategy*, 41(2), 52-55.
- Bordi, L. P., Mäkineniemi, J., Heikkilä-Tammi, K., & Okkonen, J. (2018). Communication in the digital work environment: Implications for wellbeing at work. *Nordic Journal of Working Life Studies*, 8(S3), 29-48.
- Boswell, W.R. and Olson-Buchanan, J.B. (2016), “The use of communication technologies after hours: the role of work attitudes and work-life conflict”, *Journal of Management*, Vol. 33 No. 4, pp. 592-610.
- Bryman, A., & Bell, E. (2013). *Företagsekonomiska forskningsmetoder*. Stockholm: Liber.
- Callon, M. (1986). Some elements of a sociology of translation: domestication of the scallops and the fishermen of St. Brieuc Bay. *The Sociological Review. Special issue: Power, action, and belief: A new sociology of knowledge*, 32, 196-223.
- Callon, M. (1991). Techno-economic networks and irreversibility. In J. Law (Ed.), *A sociology of monsters: Essays on power, technology and domination* (pp. 132–165). London, UK: Routledge.

- Callon, M. (2001). Actor Network Theory. *In International Encyclopedia of Social & Behavioral Sciences* (pp. 62-66). Elsevier.
- Carlile, P.R., Nicolini, D., Langley, A., and H. Tsoukas (2013) *How matter matters. Object, artifacts, and materiality in organization studies*. Oxford: Oxford University Press.
- Collinson, D., & Tourish, D. (2015). Teaching leadership critically: new directions for leadership pedagogy. *Academy of Management Learning and Education*, 14(4), 576-594.
- Cortellazzo, L., Bruni, E. & Zampieri, R., (2019). The Role of Leadership in a Digitalized World- A Review. *Frontiers In Psychology*, 10, p.1938.
- Corvellec, H., Babri, M., & Stål, H. I. (2020). Putting circular ambitions into action: the case of Accus, a small Swedish sign company. In *Handbook of the Circular Economy*. Edward Elgar Publishing.
- Davidson, J., Paulus, T., & Jackson, K. (2016). Speculating on the Future of Digital Tools for Qualitative Research. *Qualitative Inquiry*, 22(7), 606-610.
- Detel, W. (2001). Social Constructivism. *In International Encyclopedia of the Social and Behavioral Sciences* (pp. 14264-14267). Elsevier.
- Eller, R., Alford, P., Kallmünzer, A., & Peters, M. (2020). Antecedents, consequences, and challenges of small and medium-sized enterprise digitalization. *Journal of Business Research*, 112, 119-127.
- Entschew, E. (2019). Digital communication in and beyond organizations: Unintended consequences of new freedom. *Journal of Information, Communication & Ethics in Society*, 17(3), 304-320.
- Erdem, F., & Atsan, N. (2015). Trust Based Relationships between Family Members and Long-Term Employees of Family-Owned SMEs. *International Business Research*, 8(4), 223-232.
- European Commission. (2021). *SME definition*. [https://ec.europa.eu/growth/smes/sme-definition\\_en](https://ec.europa.eu/growth/smes/sme-definition_en) Accessed: 2021-02-05
- Flyvbjerg, B. (2006). Five Misunderstandings About Case-Study Research. *Qualitative Inquiry*, 12(2), 219-245.
- Gibbs, G. R. (2007). *Thematic coding and categorizing*. In Gibbs, G. R. *Qualitative Research kit: Analyzing qualitative data* (pp. 38-55). London, England: SAGE Publications

Gourlay, L. (2016). Posthuman Texts: Nonhuman Actors, Mediators, and Technologies of Inscription. *The Journal of Electronic Publishing*, 19(2), 1.

Graneheim, U. H., Lindgren, B. M., & Lundman, B. (2017). Methodological challenges in qualitative content analysis: A discussion paper. *Nurse education today*, 56, 29-34.

Hayes, N., & Westrup, C. (2014). Consultants as intermediaries and mediators in the construction of information and communication technologies for development. *Information Technologies and International Development*, 10(2), 19-32.

Hyken, S., (2021). *The Impact Of The Remote Workforce*  
<https://www.forbes.com/sites/shephyken/2021/02/28/the-impact-of-the-virtual-work-from-home-workforce/?sh=6ff287ba2873> Accessed: 2021-05-13

Hoonakker, P. (2014). *Information and communication technology and quality of working life: Backgrounds, facts and figures*, in C. Korunka & P. Hoonakker (Eds.) *The Impact of ICT on Quality of Working Life: 9–23*. Dordrecht: Springer.

Hussain, Syed Talib, Lei, Shen, Akram, Tayyaba, Haider, Muhammad Jamal, Hussain, Syed Hadi, & Ali, Muhammad. (2018). Kurt Lewin's change model: A critical review of the role of leadership and employee involvement in organizational change. *Journal of Innovation & Knowledge*, 3(3), 123-127.

Kilimis, P., Zou, W., Lehmann, M., & Berger, U. (2019). A Survey on Digitalization for SMEs in Brandenburg, Germany. *IFAC PapersOnLine*, 52(13), 2140-2145.

Kuusisto, M. (2017). Organizational effects of digitalization: A literature review. *International Journal of Organization Theory and Behavior*, 20(3), 341-362.

Latour, B. (1986). The powers of association. *The Sociological Review*, 32(S1), 264-280.

Latour, B. (1987). *Science in action: How to follow scientists and engineers through society*. Cambridge, MA: *Harvard University Press*.

Latour, B. (1991). *Society is technology made durable*. In J. Law (Ed.), *A sociology of monsters: Essays on power, technology, and domination* (pp. 103-131). Routledge.

Latour, B. (2005). *Reassembling the social an introduction to actor-network-theory* (Clarendon Lectures in Management Studies). Oxford: Oxford University Press, UK.

Law, J. (1992). Notes on the theory of the actor-network: Ordering, strategy, and heterogeneity. *Systems practice*, 5(4), 379-393.

Leonardi, P. (2011). When Flexible Routines Meet Flexible Technologies: Affordance, Constraint, and the Imbrication of Human and Material Agencies. *MIS Quarterly*, 35(1), 147-167.

Leonardi, P. (2013). Theoretical foundations for the study of sociomateriality. *Information and Organization*, 23(2), 59-76.

Leonardi, P., & Barley, S. (2008). Materiality and change: Challenges to building better theory about technology and organizing. *Information and Organization*, 18(3), 159-176.

Lind, R. (2014). *Vidga vetandet*. Lund: Studentlitteratur.

Lipiäinen, H., Karjaluoto, H., & Nevalainen, M. (2014). Digital channels in the internal communication of a multinational corporation. *Corporate Communications: An International Journal*, 19, 275-286.

Madianou, M., & Miller, D. (2013). Polymedia: Towards a new theory of digital media in interpersonal communication. *International Journal of Cultural Studies*, 16(2), 169-187.

Majchrzak, & Markus, Ann, M. Lynne. (2013). *Technology Affordances and Constraints Theory* (of MIS). 2, 832-835.

Merriam-Webster. (2021). *Relationship - Definition of a relationship*. <https://www.merriam-webster.com/dictionary/relationship> Accessed: 2021-05-13

Montenegro, L., & Bulgacov, S. (2014). Reflections on actor-network theory, governance networks, and strategic outcomes. *BAR - Brazilian Administration Review*, 11(1), 107-124.

National Geographic Society. (2012). *Erosion*. Retrieved May 13, 2021, from <https://www.nationalgeographic.org/encyclopedia/erosion/>

Nguyen, M., Gruber, J., Marler, W., & Hunsaker, A. (2020). Changes in Digital Communication During the COVID-19 Global Pandemic: Implications for Digital Inequality and Future Research. *Social Media Society*, 6(3), *Social Media Society*, Vol.6(3).

O'Halloran, J. (2020). *Microsoft Teams usage growth surpasses Zoom* <https://www.computerweekly.com/news/252485100/Microsoft-Teams-usage-growth-surpasses-Zoom> Accessed: 2021-04-28

Orlikowski, W.J., (2007). Sociomaterial Practices: Exploring Technology at Work. *Organization Studies*, 28(9), 1435-1448.

Orlikowski, W. J., & Iacono, C. S. (2001). Desperately seeking the "IT" in IT research: A call to theorizing the IT artifact. *Information Systems Research*, 12(2), 121-134.

- Orlikowski, W., & Scott, S. (2008). Sociomateriality: Challenging the separation of technology, work and organization. *The Academy of Management Annals*, 2, 433-474.
- Pagani, M., & Pardo, C. (2017). The impact of digital technology on relationships in a business network. *Industrial Marketing Management*, 67, 185-192.
- Pandey, N., & Pal, A. (2020). Impact of digital surge during Covid-19 pandemic: A viewpoint on research and practice. *International Journal of Information Management*, 55, 102171.
- Pentland, B., & Feldman, M. (2007). Narrative Networks: Patterns of Technology and Organization. *Organization Science*, 18(5), 781-795.
- Spataro, J. C. (2020). *How to make connections in remote meetings*.  
[https://www.microsoft.com/en-us/microsoft-365/blog/2020/04/09/remote-work-trend-report-meetings/?wt.mc\\_id=AID2409697\\_QSG\\_SCL\\_424041&ocid=AID2409697\\_QSG\\_SCL\\_424041](https://www.microsoft.com/en-us/microsoft-365/blog/2020/04/09/remote-work-trend-report-meetings/?wt.mc_id=AID2409697_QSG_SCL_424041&ocid=AID2409697_QSG_SCL_424041) Accessed: 2021-04-28
- Swedish Public Health Authority. (2021). *Arbete hemma*.  
<https://www.folkhalsomyndigheten.se/smittskydd-beredskap/utbrott/aktuella-utbrott/covid-19/skydda-dig-och-andra/arbete-hemma/> Accessed: 2021-04-28
- Tarver, E (2021). *How to tell if your corporate culture is healthy*.  
<https://www.investopedia.com/terms/c/corporate-culture.asp> Accessed: 2021-04-05
- Rosa, H. (2014), *Beschleunigung: Die Veränderung Der Zeitstrukturen in Der Moderne*, 10th ed., Suhrkamp, Frankfurt am Main.
- Saarikko, T., Westergren, U., & Blomquist, T. (2020). Digital transformation: Five recommendations for the digitally conscious firm. *Business Horizons*, 63(6), 825-839.
- Silverman, D. (Ed.). (2017). *Qualitative research*. Sage Publications Limited.
- Soto-Acosta, P. (2020). COVID-19 Pandemic: Shifting Digital Transformation to a High-Speed Gear. *Information Systems Management*, 37(4), 260-266.
- Swedish Research Council. (2017). *Good Research Practice*. Stockholm: Swedish Research Council
- Vázquez, J. P. A. (2020). *The Financial Function in Era 4.0: Challenges of Digital Transformation in SMEs*. In *Emerging Tools and Strategies for Financial Management* (pp. 59-80). IGI Global.

Wenzler, M., & Schmidthaler, M. (2019). *Readiness, use and enablers of digital customer interaction tools in Austria*. In Cross-Cultural Business Conference 2019 Proceedings (pp. 99-106).

Yoo, Y. (2013). The Tables Have Turned: How Can the Information Systems Field Contribute to Technology and Innovation Management Research? *Journal of the Association for Information Systems*, 14(5), 227-236.