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Master Degree Project in Management

# The institutional complexity of achieving business/IT alignment

A qualitative study performed at a Swedish telecom company

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Master Degree Project
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## Abstract

The aim of this paper is to identify the complexity of why it is hard to achieve business/IT alignment. This is investigated from the social dimension at a Swedish telecom company. The study has a qualitative approach and the data is collected by conducting 16 interviews and 4 observations. The analysis of the field data is done by using a practice lens of institutional logics. This framework is used to understand the complex interplay among social actors working at the company's IT and business department. The purpose is first to understand how respective department act and how their relationship unfolds in practice. Secondly, it is to understand the implications on business/IT alignment. The study presents three main findings which adds institutional complexity when aiming for alignment; different pace in an external and internal world, the importance of materialization practices, and the consequences of implementing a new management practice. Those findings explain the institutional complexity when aiming for alignment and why social difficulties arise. Furthermore, those findings identify benefits from friction and highlight the consequences of segmenting, hybridizing and black-boxing social domains and practice repertoires. Altogether, this paper provides new insights into the challenges of achieving business/IT alignment, while it also highlights the importance of embracing institutional complexity rather than trying to resolve it.

**Key words:** Business/IT Alignment, Institutional Complexity, Institutional Logics, Practice, Swedish Telecom Company

## Introduction

The complexity of achieving business/IT alignment is a widespread problem in organizational life. Business/IT alignment has been ranked as one of the top three challenges for IT leaders over the years (Kappelman, McLean, Luftman, & Johnson, 2013; Luftman & Ben-Zvi, 2011; Luftman & Kempaiah, 2007) and the process of achieving business/IT alignment has been described as challenging as it often encounters friction and result in failure (Tanriverdi, Rai, & Venkatraman, 2010). Frictions arise many times because of communication barriers, invisibility of IT staff, bad relationship between business and IT departments and because business and IT lack understanding for each other´s environment (Alaceva & Rusu, 2015). One consequence of poor alignment is that organizations fail to exploit the full potential of IT investments (ibid.). Failures derived from this problem report losses of billions each year, and it is anticipated this trend will continue to be even steeper in the future with the accelerating

technological development (Stoica & Brouse, 2013). Scholars have argued that it is crucial to align business and IT strategies in order to achieve an efficient and successful organization (Aversano, Grasso, & Tortorella, 2013). Research has further shown a positive relationship between business/IT alignment and organizational performance (Charoensuk, Wongsurawat, Khang, 2014), where alignment between business processes and supporting software systems strongly affect the performance of business operations (Aversano, Grasso, Tortorella, 2013). Even if the problem has received researchers´ interest since late 70´s (McLean & Soden, 1977), and been one of the main directions within information systems literature (Tanriverdi, Rai, & Venkatraman, 2010), it is still a widespread problem. Therefore, we argue that they still have not identified the underlying complexity for achieving business/IT alignment.

Most of previous studies, focusing on business/IT alignment, are published in information system journals and have taken a strategic, structural and functional approach to business/IT alignment. They have studied the strategic fit between strategy and infrastructure as well as the functional integration between business and IT. Although a number of studies have highlighted the challenge and the advantage of achieving business/IT alignment, few studies have focused on the phenomenon from the social domain (Reich & Benbasat, 2000; Alaceva & Rusu, 2015). The ones which have emphasized the social dimension, have presented factors that contribute and prevent alignment, for example effective communication. However, we will assume those factors need further investigation as they fail to explain in what way for example communication needs to be more efficient.

This study investigates the relationship between a business and an IT department at a Swedish telecom company, in this paper called TeleCo. This company is interesting as it operates on a complex and fast-moving market which is highly affected by the digital transformation. The market is characterized by fierce competition and new technology where new actors entering the market and new product/services arise. In order to adapt to those changing conditions and the digital transformation, several organizational changes have been made and the company has put emphasis on aligning their business and IT department. Based on this, we aim to study why it is hard to align their business and IT departments.

In order to study the relationship between TeleCo´s business and IT department, institutional logics is a useful theoretical framework. Institutional logics helps us understand how the IT and business departments order their reality (Friedland & Alford, 1991), and the rules behind their actions, interactions and interpretations (Thornton & Ocasio, 1999). In other words, it helps us understand how they interact, cooperate and how their interdependence looks. In order to identify appropriate actions in certain contexts, we will investigate procedural routines; how the departments organize themselves separately. This allows us to study the social prescriptions that shape their behavior which is normally taken for granted (Battilana, 2006). In addition, using this framework makes us understand what goals they pursue and how they pursue them (Scott & Meyer, 1994). Consequently, this improves our understanding for what is characterized as legitimized actions for IT respectively business and why tensions arise between them.

Altogether, to understand the complex interplay between TeleCo´s IT and business department, we need to open the black box and start questioning was is normally taken for granted. When we understand how their relationship unfolds in practice, it is then possible to analyze what implications their relationship has on business/IT alignment. Therefore, this study will answer the following questions: *(1) How do business and IT act, and how does the relationship between them unfold in practice? (2) What are the implications on business/IT alignment?*

This paper is structured as follows, first previous research within business/IT alignment is presented, followed by the theoretical framework of institutional logics. Thereafter, how the study has been conducted and analyzed is described in a methodology chapter. After that, the empirical data is presented followed by a discussion of the main findings and their implications on business/IT alignment. The study ends with conclusions and suggestions for further research.

# Previous research on business/IT alignment

The  In order to contribute with new insights into business/IT alignment, we first need to consider previous research within the field. The phenomenon has been known for decades (Alaceva & Rusu, 2015) and it has received a lot of attention among scholars over the years (Reich & Benbasat, 2000; Alaceva & Rusu, 2015; Davis & Olson 1985; King 1978). The business/IT alignment concept was initially developed as a response to organizations who only focused on the process of designing and developing information systems, without considering the need of aligning them with business objectives (King, 1978). King (1987) was one of the first scholars who criticized organizations for not integrating management of information system processes with strategic planning processes. He claimed that this is a crucial process as information systems support the basic purposes and goals of an organization. By integrating the two, he meant that organizations would become more efficient and it would facilitate managerial decisions.

Even if the issue often is perceived as clear, it still lacks a formal definition (Aversano, Grasso & Tortorella, 2013). According to Becker (2008), business/IT alignment is defined as the degree of fit between business needs and the support provided by software systems, as the performance of a business process is interrelated with the adequacy of software system. Traditionally, scholars have described business/IT alignment from two abstraction levels; one strategic and one functional level (Byrd, Lewis & Bryan, 2006; Gordijn, Yu & Raadt, 2006). A strategic alignment of business and IT exists when goals, processes and activities are in harmony with supporting information systems. Byrd et al. (2006) provided a study on business/IT alignment from a strategic level when investigating the relationship between IT investments and firm performance on manufacturing firms. Their study indicated a synergy between aligning the strategic agenda with IT investments, leading to enhanced firm performance. Alignment on a functional level, on the other hand, exists when business processes and software systems align with the aim to optimize the effectiveness of software support during the entire business execution (ibid.). Aversano, Grasso and Tortorella (2013) contributed with a study based on the functional level of business/IT alignment when

introducing a goal-driven alignment approach to analyze business process activities, percentage of actors involved and implemented supporting software systems.

Although numerous studies have highlighted the challenge of achieving business/IT alignment and the positive result that come with it, less studies have focused on the phenomenon from the social domain (Reich & Benbasat, 2000; Alaceva & Rusu, 2015). Thus, critique has been raised towards the overemphasized focus on aligning strategy objectives with functional processes, without considering the people involved in alignment (Alaceva & Rusu, 2015). Henderson (1990) initiated an involvement of the social aspect, when arguing about the importance of building effective relationships between business managers and information system managers. Meanwhile, it was Reich and Benbasat (2000) who were among the first scholars, whose criticism received increased attention. They questioned the functional and strategic approaches in previous research, arguing that developing organizational understanding is often more challenging than actual formulation and implementation of IT and business plans. For this reason, Reich and Benbasat (2000) pointed on the importance of investigating the phenomenon from a social perspective. They focused on the complexity of business/IT alignment, claiming that alignment is often hindered by poor alignment between people. Therefore, they emphasized the actors involved in the process of achieving business/IT alignment. As a consequence, social issues between IT and business departments are derived from a weak business/IT relationship, poor communication, limited knowledge of each other's domain, and lack of leadership and organizational culture (Reich & Benbasat, 2000). Following Reich and Bensabat (2000), several scholars have presented social barriers of achieving business/IT alignment. Alaceva and Rusu (2015) performed a study where they uncovered 19 barriers of achieving business/IT alignment from a social perspective. Their main findings showed that a low understanding of the counterpart's environment, poor communication, unclear specifications, limited cooperation and lack of mutual commitment and support, impede an alignment between business and IT. Charoensuk et al. (2014) further argued that shared domain knowledge has the highest impact on business/IT alignment and that communication effectiveness strongly promotes shared domain knowledge. They stated that the degree of business/IT alignment will be enhanced when shared domain knowledge is supported by effective communication.

However, we argue those findings need further investigation as they only have identified factors contributing and/or preventing alignment. By studying the phenomena from the social dimension, including relationships, behaviors, communication, mutual understanding, on a micro-level, allows us to better understand the complexity of why it is hard to achieve business/IT alignment. Previous studies focusing on complex interplay among social actors have applied a framework of institutional logics (e.g. Zilber, 2002; Reay & Hinings, 2009; Harris & Holt, 2013; Glynos, Klimecki & Willmott, 2015). This theoretical framework is suitable as it gives a dynamic approach to study complex business environments (Reay & Hinings, 2009). Furthermore, the study of actors, practices and logics will bring new shed of light to the problem of achieving business/IT alignment which in turn will contribute to a deeper understanding for its complexity. The theoretical concept of institutional logics will be further outlined in the next section.

# Theory

## Institutional Logics

Institutional logics is a concept developed within the field of institutional theory. Institutional theory seeks to explain why structures and organizational behaviors are long-lasting and taken for granted in everyday life (Meyer & Rowan, 1977). Meyer & Rowan (1977) argue this is because organizational structures often reflect individuals who strive for being legitimized by their environment, as this enhance their survival prospects independently of the adequacy of acquired practices (Meyer & Rowan, 1977). Within this field of research, Friedland and Alford (1991) introduced the concept institutional logics when investigating change and diversity within organizational fields from a micro perspective. They emphasized the importance of social context in organizational behavior, thereby defining institutional logics as "ways of ordering reality" (Friedland & Alford, 1991, p. 243) and "set of material practices and symbolic constructions" (Friedland and Alford, 1991, p. 248). Battilana (2006) further argues that institutional logics are social prescriptions that are taken for granted and which in turn shape the behavior of actors within a field. Therefore, they exist as means for a field's shared understanding of what goals to pursue and how to pursue them (Scott & Meyer, 1994). Logics can be identified in organizational forms and social norms as they determine what is "considered salient, which ends to pursue, which means to employ and which standards to use to define success" (Smets et. al., 2015, p. 934). Therefore, as institutional logics help to explain connections that create a common purpose and unity within organizations, logics are useful concepts to describe and understand organizational fields (Reay & Hinings, 2009). Furthermore, scholars argue that the framework is appropriate when studying how and why practices take place (Smets et. al, 2015; Harris & Holt, 2013; Eriksson et al., 2017). A practice lens on institutional logics has received increased attention by several scholars (e.g Smets et. al, 2015; Harris & Holt, 2013; Eriksson et. al., 2017; Glynos, Klimecki & Willmott, 2015), and practices can be defined as "meaning-making, identity-forming and order-producing activities" (Lindberg, 2014, p. 488). It is the consistency of the composition of actions that constitute a practice, which in turn makes the collective work meaningful, rendering participation in collective practice (Schatzki, 2002, 2006). Because of this, a general understanding in terms of a practice can be comparable to an institutional logic as both is related to a common agreement of what ends to pursue in a certain situation.

Scholars researching institutional logics have traditionally focused on the market logic as one of the "master principles of society" (Thornton, 2004. p. 70). The market logic implies a strategy and overall goal of profit maximization, where actions are legitimized by considerations for share price and shareholder activities (Thornton et al., 2012). Therefore, individuals who are guided by a market logic strive for new market shares and focus on beating their competition (Harris & Holt, 2013; Smets et al., 2015). Serving other areas of interest is only considered when it complements efficiency and control seeking behaviors in the pursuit of profit maximization (Pache & Santos, 2013; Thornton et al., 2012). Therefore, norms of individualism and self-interest are considered as basis for individuals guided by this logic (Almandoz, 2012; Marglin, 2008).

An additional logic which has attracted scholars´ interests is the professional logic. A social domain governed by a professional logic is characterized by expert knowledge, technical autonomy and a commitment to serve others (Gorman & Sandefur, 2011). Individuals who adhere to a professional logic tend to learn from each other and regulate themselves without considering competitive markets and managerial bureaucracy (Freidson, 2001). However, Mangen and Brivot (2015) argue that a professional logic does not have a fixed meaning, instead it is related to a specific type of work or organization. As a consequence, professionals could be IT employees developing software solutions. Boonstra et al. (2017) identified an IT professional logic when studying the enactment of competing logics in IT governance. They characterized an IT professional logic as being centered around instrumentality, as it is an IT employee's role to design IT solutions that are useful for business managers and other employees to achieve their common ends (Hirschheim & Klein, 1989). IT professionalism can be seen in system thinking, the embracement of technical knowledge and a technical jargon (Agresti, 2011; Guzman et al, 2008). IT professionals' highlight information technologies importance in organizational life and they highlight the user of the system as a central actor (Kling, 1980). To perform their everyday work activities, they need to be available, compatible, maintainable and secure (ibid.).

## Multiple logics in institutional complexities

Organizational fields constitute often of multiple logics at once (Friedland & Alford, 1991). Logics holding a dominant position in organizational fields are more likely to be competitive and legitimized, thereby they often stay unaffected by change pressures. Therefore, several scholars argue that one institutional logic often has a dominant position in the field and a change process equals a shift from one dominant logic to another (Battilana 2006; Dobbin 1994; Reay & Hinings 2005; Schneiberg 2002). Furthermore, logics tend to continuously change as organizations are pluralistic contexts where no logics prevail (Denis, Langley, & Rouleau 2007; Jarzabkowski & Fenton 2006; Kraatz & Block 2008). The process of adhering to logics is often enforced by mechanisms associating their violation of either social or material cost of legitimacy (Friedland & Alford, 1991; Thornton & Ocasio, 1999). As a consequence, the challenge is often to meet domain-specific expectations while also minimizing the loss of legitimacy. However, when organizations operate in multiple domains creating an overlap between conflicting logics, environments of institutional complexities are inevitable (Thornton et al., 2012). Institutional complexity can be defined as "incompatible prescriptions from multiple institutional logics" (Greenwood et al., 2011, p 317). In other words, as an institutional logic can be viewed as "rules of the game", an organization encounters institutional complexity when the organization consists of two or more games simultaneously (Kraatz & Block, 2008). Adherence to one logic means meeting the expectations of one social domain while losing legitimacy to another (Purdy & Gray, 2009). By combining inadequate structures and practices (Jay, 2013; Tracey et al., 2011), the risk of clashes between groups representing competing logics are inevitable (Almandoz, 2012; Pache & Santos, 2010).

Even though logics can shape contradictory actions in multi-institutional settings, it is argued multiple logics can co-exist through a process called segmenting. Segmentation means a dynamic and diversified influence of logics. The segmentation process decides which impact

an institutional logic has on different actors, communities and types of organizations (Goodrick & Reay, 2011). In addition, some parts of work can reflect traits from one logic, while other parts can reflect traits from others. Therefore, multiple logics can have a collective influence on organizations and social actors. One logic can for example be used in different situations to achieve opposite goals. The same actor can also choose to employ different logics at different times depending on the perceived need at a certain situation. Even though institutional logics can have an individual approach, their construction, transmission and their use depend on the people employing them, who themselves have interests, beliefs and preferences (Binder, 2007). A study performed by McPherson and Sauders (2013) showed that actors seem to employ logics when there is an uncertainty or disagreement about the organizational decision-making processes. Moreover, logics seem to be used by whoever picked them up and used it in ways that suit the purpose at hand. Therefore, individuals use logics to manage complexity inherent in a multi-institutional setting. In addition, Lindberg (2014) argues that a logic must be inscribed into a material, which separate the logics from its institutional environments, to travel between actors. It is first when a logic is translated into a new local practice and it becomes embedded into the institutional environment, as it will be taken for granted, black boxed and become a silent guidance for future actions in the organizational field (ibid.).

A creative use of logics helps to balance conflicting obligations of one's institutional background and the local organizational setting. If actors would strictly adhere to one's own institutional framework, it would inhibit expectations for collaboration and the ability to function efficiently (McPherson & Sauders, 2013). However, researchers have also identified situations where embracing, rather than resolving institutional complexity, can offer advantages of enhanced innovation and broader practice repertoires (Pache & Santos, 2013; Tracey et al., 2011). By understanding the dynamics behind institutional logics, and how they co-exist in multiple versions, allows for investigating both cooperative and competitive logics. A competitive relationship implies that the strength of one logic means the decrease of impact from another, while a cooperative relationship between institutional logics means that logics can co-exist without interfering each other (Goodrick & Reay, 2011). In Goodrick and Reays´ study (2011), cooperative logics tended to co-exist as some aspects of work are guided by alternative logics. Multiple competitive logics tended to co-exist for longer time periods because the logics guided practices that were substantially segmented. Another dimension of co-existing logics is hybrid logics. Boonstra et al. (2017) studied the existence of hybrid logics when investigating stakeholder's enactment of competing logics. According to them, a hybrid logic is enacted when individuals combine elements of two logics. In such situations, practices guided by two different logics are legitimized and accepted, therefore they do not violate each other. Thus, the logics are neither complementary nor conflicting. However, Boonstra et al. (2017) argue unstable policies and environments are often the result when organizations are guided by hybrid logics. This can in the long run result in ambiguities and contradictive practices.

Altogether, our study will take a practice lens of institutional logics by focusing on the activities of individuals rather than organizations. The practice perspective of institutional logics will allow us to understand the dynamics behind institutional logics and how they co-exist in

multiple versions. This in turn will facilitate our understanding for the underlying complexity of business/IT alignment. The next section will present how our study have been conducted and analyzed.

# Research methodology

## The setting and design of the study

This study aims to develop a deeper understanding for the complexity of why it is hard to achieve business/IT alignment. To understand the concept of business/IT alignment, extensive literature studies were undertaken. When we searched in databases for academic journals regarding business/IT alignment, a large amount of information system journals showed up. Most of them took a strategic, structural and functional approach and to ensure that the data was relevant for our study, we searched for articles focusing more on the social dimension. To gather our field material, a case study methodology was used by conducting 16 qualitative interviews and 4 observations at the company, in this study, called TeleCo. Flyvberg (2006) means that case studies emphasize the importance of context, and this methodology gives us a more nuanced picture of the reality at TeleCo as we can make sense of experiences and learn from concrete situations. In order to study business/IT alignment at TeleCo, we first needed to understand how the departments act and how their relationship unfolds in practice. Therefore, we chose a qualitative research approach, which is according to Silverman (2011), the best method to study everyday actions and behaviors.

## Data collection

In order to understand how the concept of business/IT alignment unfolds in practice, primary data was used. The primary data, including interviews and observations, was necessary to understand how the findings from the literature unfolded in practice and to investigate if there were any other factors contributing to the gap between business and IT. The observations, made at the office, was a way to see how they worked and how attitudes were expressed in practice; both formally and informally in front of the coffee machine. By studying human actions and social interactions during observations, we were given valuable, rich, first-hand data which covered both ordinary and remarkable events and contextualized actions. To avoid forgetting about details, notes were taken during and closely after each observation. Those notes were richly detailed and descriptive of the context, as we described both actors, furnishing and actions.

To obtain different perspectives and to understand how the two departments, independently, understood and made sense of the situation and their relationship, it was important for us to interview and observe people from both units. Having a mix of respondents, both regarding hierarchical level and responsibilities, did not only give us information about how the relationship between business and IT was interpreted from different viewpoints, but also if people talked about the relationship in a similar or different way. The choice of respondents was based on four criteria; (1) they worked close to the same business area, (2) they had different competencies, (3) they were active and interested in the relationship between business and IT, and (4) they worked at different hierarchical levels. However, the selection of respondents was an ongoing process as we had time between the interviews to go through our

data and identify what we needed more information about and which respondents were of more interest than others. This process enabled us to remain flexible in our research and to conduct data necessary to answer our research questions. To avoid being biased of one of the departments and to get a fair picture of the situation, the respondents were equally distributed between the departments and the order of the interviews of business and IT respondents were mixed as much as possible. The process of selecting respondents ended when saturation was reached.

The interviews lasted between 45-60 minutes and the majority of them were held face-to-face at the office but as some of the respondents were positioned in other cities, four of them took place via video conference. As we wanted to achieve interviews where the respondents felt good, safe and satisfied, we decided to anonymize them. We also decided to neutralize the company to avoid that readers have perceptions of the context. Therefore, the company is named TeleCo and the respondents are labeled as "Business employee 1" and "IT employee 1". All of the interviews focused on four main themes; the communication between business and IT, their relationship, how they cooperate, and each department´s responsibilities and focuses. To avoid getting out of topic, an agenda was prepared beforehand. However, this one was not communicated to the respondents as we did not want to constrain them. According to Kvale (2006), this leads to hierarchical and power asymmetries as we get a more dominant role with more information than the respondents. He means that it enables us to rule and control what is said and how it is said. To avoid a situation where we took over the control completely and in order for the study to be objective and ethical (Kvale, 2006), open questions were asked and we aimed to affect the respondent as little as possible. Based on that, our interviews were in line with what Bryman and Bell (2011) call "semi-structured interviews". This technique is less structured and encourages the respondent to speak freely about the topic and the interviewer is able to ask follow-up questions for clarifications. We could therefore effectively receive information about details, examples and everyday practices. In order to ensure that we listened actively and that we understood what was said, one of us was responsible only for asking questions and listening. The other one was responsible for follow-up questions and taking notes, which was useful in the end of the interviews to get an overview of what was said. The purpose of the notes was also to have a backup in case of record errors. Having said that, all of the interviews were recorded. This enabled us to go back and confirm several findings when we analyzed our data and it increased the reliability as notes taken during an interview can include inaccurate interpretations and misunderstandings.

## Data analysis

To analyze and understand our data, a method inspired by grounded theory was used as we aimed to discover logics from the data rather than test or verify existing logics. Grounded theory is a useful method for analyzing qualitative data and it was of interest for this study as we were conducting a case study of organizational behavior and where we were concerned about carrying out detailed, local fact (Martin and Turner, 1986). To analyze our data, all of the interviews were transcribed and the material was coded; first without theoretical considerations and then with the chosen theoretical framework. We started our concept discovery by moving the written qualitative notes to identification of concepts related to ideas

and phenomena (Turner, 1981). This movement, from data to concept, created a large number of codes which in turn was compiled in an excel sheet to get an overview. The selective coding enabled us to focus on data relevant for the study (Martin and Turner, 1986). In other words, it enabled us to focus on reflections and interpretations that was important to answer our research questions. As logics emerged, we were able to discover some concepts that were more useful and common than others. For example; "revenue", "cost", "language", "agile", "waterfall", "requirement". The large amount of detailed codes was thereafter distributed into a few wider core categories as "focus", "understanding" and "work method", which in turn gave rise for different themes as "The internal and external world". The combination of codes into broader concept groups, resulted in identification of potential patterns (Czarniawska, 2014). Having said that, this way of analyzing data enabled us to manage the large amount of data and helped us to see how the interviews and observations could be related to each other as well as how they could be linked to theoretical concepts (Martin and Turner, 1986). When linking the data to our theoretical framework, concepts as "competing logics", "IT professionalism logic" and "market logic" emerged.

### Limitations and risks

The study has both geographical limitations and practical issues that need to be considered. First, it has geographical limitations as it only examines one company within one industry. This is in line with Flyvberg (2006) who states that case studies cannot be generalized. Secondly, as we only observed and interviewed people working close to one business area, we were limited to a certain part of the organization and failed to capture the entire network. However, this scope was needed as we did not have enough time to capture the entire network and as we wanted to get a deep, rather than general, understanding for the relationship between business and IT. The practical issues when conducting the data, included the challenge of not making sense and draw conclusion during interviews and observations. It did also put us in an uncomfortable and challenging situation as we needed to study what is normally taken for granted. Finally, even if we had access to people we could interview and observe, there is still a risk that we did not get the real information about what they thought or felt (Van Maanen, 2011). First, we could not for certain know what the people we observed were thinking and feeling only by observing them. Secondly, the ones who were interviewed might have felt pressure of saying what we wanted to hear, or might have been afraid of saying something behind others´ back (ibid.). However, next section will present the result based on our interviews and observations, but first a short introduction of the case will be given.

## Empirical data

This study was performed at a Swedish telecom company called TeleCo. The company offers products and services within several business areas, e.g. Mobility and Telecom infrastructure. TeleCo operates in a complex business environment where the market is characterized by saturated growth, fast-changing customer preferences and new technology. This in combination with the ongoing digitalization of organizations put pressure on TeleCo to deliver attractive product offerings which in turn require an underlying IT infrastructure. Therefore, their business operations are highly dependent on their IT solutions. Consequently, to respond to their complex business environment, it is crucial to have a good collaboration between their

IT and business department. Even if those departments have been working together in different constellations for many years at TeleCo, frictions still arise. The following sections will describe how the departments manage their complexities, how they understand each other, how they shift in their reasoning when working in different work methods, and how they work together. Altogether, this will present how they act separately and how their relationship unfolds in practice. Thus, it will illustrate why it is hard to align them.

## Focus in an internal and external complexity

This study focuses on the relationship between TeleCo´s business and IT unit. The business unit operates in a continuously changing world surrounded by new trends, changes in consumer behaviors and with a lot of both old and new competitors who tries to gain market shares. They also have the pressure of being transparent and meeting shareholders expectations. To manage those external factors and the speed of the changing conditions out on the market, they constantly seek to identify customers´ needs and invest a lot of time considering new product strategies. Having said that, it is their responsibility to make sure the company is offering the right product/service, at the right time, through the right channel out to the customer. Therefore, the people working at the business department need to be very creative and innovative in order to adapt to their turbulent conditions. When we visited the business department, this was confirmed as we were met by an atmosphere characterized by happiness, creativity and playfulness. There was one group who joked and laughed, some individuals who had a chat in front of a computer and another group who played a video game. The IT department gave us, on the contrary, a much calmer and structured reception. Their walls were covered by sticky notes that represented different work processes and instead of having a group of individuals gathered in front of one computer, it was here computers that surrounded one individual.

If the business department constantly needs to think outside the organization; to create new things, develop new products and considering customers´ needs, the IT department, which acts as a support function and partner to business, needs to manage what they have internally. In other words, they need to consider existing IT systems within the organization and focus on optimizing, developing and maintaining them. Based on that, the IT unit seems to operate in a world characterized by a slower pace than business. This was also illustrated when one of the business respondents mentioned that the IT unit stands still as they are operating deep in a mire of systems. To respond to the complexities within their internal world, a majority of the respondents described IT people as very structured, detailed and analytic. They explained, in one or another way, that this is required of them in order to manage the complex network of systems. They need to understand how the network is structured and which systems are connected to each other. Otherwise, they will not understand what impact a tiny change has on the entire network.

Even if IT and business share the same overall goal of achieving profit, they still have different goals within each department. IT employees have an objective of decreasing costs, while business employees have an objective of increasing revenues. Several IT respondents argued that the best way to increase profit is to reduce the costs by optimizing existing IT-infrastructure

with their technical expertise. This results in good quality solutions and more efficient work processes, which facilitate their maintenance work. On the contrary, several business respondents claimed generation of revenues, through new innovative products, as a more successful formula to achieve profit. Those conflicting focuses creates a paradox which was expressed by one of the IT employees:

> *"IT focuses much on saving money. Business in contrast will cost a lot of money. It is an extreme and complex world that we are operating in and somewhere in-between this, we are supposed to make money. Therefore, we have to make it simple. It is very complex and we cannot make it more complex than it is today. One of us is supposed to save money all the time, but then a catch 22 situation arise because the business requirements that come in, result in increased costs."*
>
> - IT employee 1

This statement shows IT and business interdependence; the emphasis on one of the departments focus means demolish of the other one's focus. When business starts to invest more to increase their revenues, IT´s goal to reduce the costs will be neglected and vice versa. However, even if this can be seen as conflicting, their objectives are still complementary in the long run as decreasing costs and increasing revenues have a positive impact on the profit. Furthermore, the departments are highly dependent on each other. One of the business respondents explained that; without a business department who creates business requirements, there would not be an IT department as there would not be anything to implement. On the other hand, without an IT department who transform business ideas into solutions, there would not be anything to offer the customers and therefore no business.

Altogether, business and IT operates in worlds characterized by different pace and they face different complexities. Business finds complexity in a fast-changing environment while IT finds complexity within existing IT infrastructure. To respond and manage their different complexities, they have adapted different practices. Furthermore, their relationship seems to be dynamic as they are complementary on the long term, to increase the profit, but conflicting on a short-term basis.

## Understanding the other department´s language and complexity

The business and the IT department do not only face challenges in their collaboration because of different focuses, additional factor contributing to friction is that they are not positioned together. At best, they are working in the same building at different floors, but other times they are positioned in completely different cities. One disadvantage of not being positioned together is that they do not get to know each other genuinely. This is partly because they lose the unofficial communication taking place in front of for example a coffee machine. The respondents described the unofficial communication as important as it is faster, more flexible and as it gives more nuanced answers compared to formal communication which takes place during meetings. Formal communication was described as a more controlled way of communicating as you are restricted to templates, reports and agendas. Consequently, not being positioned together was expressed as poor understanding for each other's departments. However, not being positioned together was not something the respondents questioned, even

if the majority expressed a desire of being positioned together, instead they expressed it as a normal condition.

Another factor contributing to poor understanding for each other is the fact that they are speaking different languages. Very often, both of them use terms and expressions that are hard to understand and the outcome is that they talk past each other. IT employees have a detailed and technical language repertoire adapted for technical environments, while business employees´ language is, in contrast, characterized as less detailed, more optimistic and more adapted to fast-changing environments. One business employee stated:

*"We talk different languages. It can be discussions about details. Like what is an offer. IT can ask what do you mean with an offer. Then we can be like, you do not know what an offer is? Haha. An offer is what we offer the customer. It can be a little bit too abstract for them. We would like to offer customers this and this. In our world, it is like, we are creating an offer; it is some products, some discounts, it is like, just out with it. Haha. It is a difference."*

- Business employee 1

This illustrates what is obvious for the business department is sometimes too abstract and ambiguous for the IT department. An observation also showed that IT struggle to understand why business need to have as many offers for products as they request. One of the IT employees stated that he could not understand why business need 900 different offers for products.

Several business respondents explained that the longer distance IT have from the customers in their work, the harder it is for them to understand business. One of them exemplified this with a game called "Customer journey" which is used to identify where and how a certain department contributes to the customer journey. The game consists of several cards which symbolizes steps in the customer journey and everything starts by asking them in which step they contribute to the journey. However, it is not obvious that everyone understands how and where they contribute. People working deep in the IT-sphere find it for example harder to understand their contribution compared to the ones working with IT within customer support functions. Another business employee further explained this is because they have never been in contact with the external world outside the organization. This was shown when they developed a new cashier system for their stores.

*"Many of the ones who worked with IT have never been out in a store which is very strange. As you are put in a steering group for three years and have never been out in a TeleCo store and we are developing a new cashier system, and you have never seen the system in the store, then you start wondering, what are their incentives? Obviously not that we will get a new cashier system or to get the customer satisfied. This is not what drives them, but what should drive them. Instead, they are driven by the system itself; its functionality."*

- Business employee 2

This statement was confirmed by some respondents who worked within the IT-sphere, who claimed that they had only worked in-house and never been out in a TeleCo store. However, if you look at the business department´s understanding for IT, this is neither perfect. As outlined in the first empirical section, people working with IT needs to understand the complexity within

their systems in order to understand what impact a tiny change has on the entire network. This understanding seems to be missing at the business department and one of the IT respondents stated:

*"Many of the business requirements that are sent to us creates a lot of complexity within our IT systems. It is like the business department does not understand that small changes in one system often get huge consequences in another system and additional costs."*

- IT employee 2

This was also confirmed during an observation at the office where people from IT discussed the challenge of managing a new functionality that had been implemented. They stated that this solution had resulted in a lot of complexity within their existing systems and that it was very hard to manage. They further questioned who was responsible for the decision behind the implementation, and one of them mentioned someone from the business department with lack of knowledge about systems. However, even if IT demand a better understanding from business for the complexity of their systems, they do not want them too involved. One of them described it as:

*"I have been in teams with business employees who puts their fingers in the jam pot. Then it is like, get away with your fingers from my jam pot. It is not your area of competence. It does not feel good to have them with their fingers in my jam pot as they do not have sufficient knowledge within the system. And sometimes it just gives us more problem when involving them in our activities."*

- IT employee 1

This statement shows how IT wants to protect their own area of expertise from business employees as business lacks knowledge about the systems. The same IT employee explained, on the other hand, that it would be good if IT was involved earlier in the process of prioritizing business requirements. In other words, it would be good if IT could put their fingers into business´ jam pot. He meant that the business department nowadays reflect upon the initial development cost when prioritizing requirements but they fail to consider the long-term administration cost of the system. In addition, both IT and business respondents expressed the need for more technical knowledge within the business department to get a better understanding for the administration of business solutions and to be able to argue about trade-offs, e.g. if one business solution is worth doing or not. However, some of the business respondents had prior experience of working at the IT department. They mentioned that this experience has enabled them to speak and understand both languages, but also to understand systems and digital solutions.

In short, one underlying factor for the friction between business and IT is their physical separation. This in combination with their use of different language repertoires have affected their understanding for each other negatively. However, the employees who had previous experience from working at both units, expressed a better understanding for the other department´s language repertoire and complexity.

## The process from business requirement to IT solution

The work process from idea to solution can be divided into three phases, where each phase is characterized by different activities and focuses. By studying the process, a lot of friction between the departments can be found and also shifts in responsibility. The first phase of the process includes brainstorming of new ideas, putting some of the ideas into requirement specifications and prioritizing among them. This is done by people from the business department who first screen the market, e.g. through conducting customer surveys. Based on this research, discussions take place during business meetings about new innovative ideas that are attractive in the eyes of customers. This is a creative process where business employees discuss potential product offerings and strategic agendas. Some of the ideas have more potential than others and those are put into a specification called business requirement. However, several business respondents claimed that there is no unity for how to organize or formulate the requirements. Some of them are written in excel as checklists, others as sentences in mail, summarized in documents, expressed orally or sent through a system designed for business requirements. The formulation of business requirements differs as some are more detailed than others and some have technical characteristics while others have functional characteristics. The latter type describes for example how a customer should navigate on the website but lacks details about the need of technical factors. However, even if there is no unity for how the requirements should be organized or formulated, none of the respondents considered this as a problem.

Before a requirement reaches the IT unit, a prioritization among potential requirements is done by a product owner. This person represents the business team and manages all the stakeholders' interests. The prioritizing of requirements is often based on how many customers are affected, what are the impact on the overall business, and what is the goal of a certain budget. Thus, much of the groundwork is done by the business department and the product owner is the one who prevent "wild and crazy ideas" from reaching the IT department. One of the product owners stated that:

*"We work a lot in our own chamber first. We do a lot of groundwork within the business department in order to stop some ideas. If we would go directly into IT, it would not be successful. They would close every second requirement. Therefore, we act as gatekeepers and look at what is possible or not based on our expertise."*

- Business employee 1

This product owner emphasized the need for prioritizing among requirements before sending them to IT as most of them otherwise would be neglected. Therefore, the product owner needs to consider the interest of both business and IT. However, even if the product owner carefully prioritizes among requirements, conflicts tend to arise when the requirements reaches the IT department. One reason is because business requirements are poorly defined. Business respondents defined a good requirement as one which illustrates the customer value and how the customer will use the solution. Several IT respondents defined a good requirement as detailed and one which breaks down a solution into sequences. Otherwise, it is hard for them to understand how they should break down the business requirements into local IT activities;

how to transform a business idea into IT functionality. In addition, one IT employee explained the desire of more detailed requirements from business:

*"Business are not clear in their communication. They need to get down to a more detailed level. For example, they say they would like a fixed period of 24 months. Yes, but how should it work then? What if the customers want to change? They cannot. Ok, but when can they change? When the fixed period has expired or when it is 3 months left. Or if it is like this or that, then they should be able to go around it. Good, we need to consider that and implementing it in our systems."*

- IT employee 3

One business respondent also highlighted a risk with unclear requirements. She meant that unclear requirements can encourage IT to make own assumptions and inspire them to take own creative initiatives, e.g. developing unnecessary or extra functions. Consequently, unclear requirements can result in wrong deliveries and they can hamper IT from performing their work efficient. Thus, it is explained as crucial by some respondents that IT should take it back to business and see what they really mean before they start implementing functions. However, IT does not only desire more details, they also request business to document what they want IT to implement. One of the IT respondents had experience from orally expressed requirements and explained the importance of documenting requirements:

*"The problem is many times that I say something but they interpret it in another way and vice versa. It is about understanding what you really mean when you are saying something. This is probably because communication can be interpreted differently from one to another. This results in something different; a green pen becomes a yellow pen. But if you have documentation, then the pen will become green because it is stated that it should be green."*

- IT employee 3

In this statement, she clearly illustrates how documentation can increase the likelihood that IT implement what business expect as it is easier to understand and interpret each other when you have it in writing. If the result is aligned or not with business´s expectations is often detected in an acceptance test where business is responsible for accepting or declining the produced solutions based on customers´ needs and stakeholders´ interests. This third phase of the process, does also have a tendency to create frictions between business and IT as business´s expectations are not always met. Thus, requirements that have been unclear in the beginning of the process creates friction in the end of the process as they make IT deliver something that business does not expect. However, even if business initial expectations are met, it is not enough if the market has changed. One IT employee described it as:

*"Business formulates requirements, they design and they tell us how it should be. Then, the requirement is left to IT who is supposed to implement the idea. When the solution is done, it is time for "acceptance-testing" and here you see that a lot of things have happened on the market and the prerequisites have changed. Then it does not look like it did in the beginning. Instead, you find out that it looks different. Then it is very often; we did not think about that, you have to change this, and this, and this etcetera."*

- IT employee 2

This shows what IT has developed might not be relevant anymore as it does not fulfil the current market needs. It is then IT´s responsibility to change the solution or develop a completely new one which better suit the market. As a consequence, the first-delivered solution is considered as successful by IT, as they have delivered what business expected from the beginning, but as a failure according to business. Therefore, this friction can harm the social relationship between IT and business. Based on that, the turbulent conditions on the market creates contradictory perceptions of what ends to pursue.

The process from idea to solution illustrates the separation of the two departments work. This separation makes the departments access to a deeper practice repertoire when they are working within their own department; they are then allowed to perform within their own area of expertise without interruption from the other department. However, this separation is at the expense of their communication and interpretation of what should be done. In addition, even if there was no common practice repertoire for how to inscribe business ideas into materialized documents, the respondents still put emphasis on the need for materialization and the requirements´ significance in general.

## Reversed reasoning in different work methods

TeleCo is operating on a market characterized by fierce competition, fast-changing consumer behaviors and new technology. To respond to those fast-changing circumstances and to become more efficient in their everyday activities, TeleCo implemented an agile work method in 2014. Furthermore, they started a large transformation project to improve their internal processes by using a waterfall-methodology. As evident from the respondents, a waterfall work setting is at TeleCo used for projects with longer time horizons and these projects have usually fixed scopes with limited resources and explicit deadlines. In a waterfall setting, IT and business explained that they work separately most of the time with their own areas of responsibility. On the contrary, working agile means a closer collaboration between IT and business. This working method is claimed to better respond to changes on the market as teams work in shorter iterations and with continual market checks. Working agile further enables IT to deliver more relevant IT functionality, and business to offer more relevant products/services to the market as they can capture the customer´s needs more frequently. Furthermore, both IT and business expressed that working agile enhance their understanding for each other and their collaboration in general. Altogether, those work methods, agile and waterfall, are opposites and illustrate how IT and business emphasize and reason about quality.

When IT respondents described how they work agile in their everyday work activities, they mentioned that they aim to deliver something with a quality that is “good enough” with a focus on the minimum value product. This means only implementing the most important aspects of an IT solution and release it to the market, even if it is not complete. One of them stated:

*"Our work is to deliver something that is sufficient to satisfy the most elementary needs. Thereafter, you are able to continue to build upon this delivery. You might get a car which is not lacquered and which does not have air-condition, automatic gearbox but you can still transport yourself from point A to B. By this, the most elementary need is satisfied."*

- IT employee 4

He further explained that business in general have too high expectations on what should be delivered and need to have more patience for the time it takes to develop complete solutions.

*"The business department might request a Ferrari with massage seats etcetera. And then we tell them that they will get a Skoda. But over time we will ensure they get a Ferrari. But the first delivery will not exactly be what they have requested."*

- IT employee 4

When a solution has reached the market, IT gets feedback from the market and can thereafter work with continuous improvements which later on enhance the quality of the first-delivered solution. Several of the IT respondents stated that continuous improvements is a way to reduce the risk of creating unnecessary complexity within their systems, as they only implement what is needed, which in turn reduce the costs. Furthermore, small functions are easier to change if needed than remarkable functions that takes years to develop. Altogether, it is more important for IT with efficient, incomplete deliveries that require continuous improvements rather than big bang deliveries in an agile work setting. This is in conflict with the business respondents' opinions regarding the quality of results. As the market consists of a lot of competition, "good enough" deliveries are not enough. They need to exceed the customers' expectations to gain market shares and therefore it is crucial to reach the market fast and with solutions that are both relevant and complete. Having said that, both IT and business aim to deliver something fast when they are working agile, but business assume that they need to deliver something complete if they will have a chance to compete on the market, while IT assume that quality will be enhanced over time.

However, when they work in the large transformation project, using a waterfall methodology, business seem to focus more on time-to-market than quality. This is because of the external pressure, from stakeholders and customers, to deliver on the explicit deadline. Consequently, it is more important to deliver something mediocre but on time, rather than being late. Otherwise, TeleCo runs the risk of losing the stakeholders´ and customers´ trust. This is in contrast with the IT respondents who expressed the importance of delivering something complete and with good quality rather than fast to market when working in a waterfall setting. As a large transformation project is something that takes a lot of time, costs a lot of money, and involves a lot of aspects, it is important that everything is done correctly. If they deliver something mediocre in order to meet the deadline, this will cause complexity within their IT systems and it will be both hard and costly to administer. Therefore, they meant that the emphasis on quality now, will give less costs and problems in the future. This reasoning is still in line with their main purpose; to deliver something that is easy and cheap to manage as this is connected to their focus on minimizing costs.

Having said that, their shift in how they reason about quality and re-adjust themselves is highly impacted by which work method they use. However, they still adhere to their main purposes. This reversed reasoning highlights the fluidity in their relationship as their focus on quality always seems contradictory. Furthermore, one of the main driver of business contradictory and reversed reasoning is the stakeholders´ influence. When working agile, it is all about exceeding stakeholders´ expectations while working in waterfall means meeting their set of expectations.

# Discussion

The result from the empirical data point towards several social challenges between IT and business, such as a lack of understanding for the counterpart's environment and poor communication. This is in line with previous studies performed by Alaceva & Rusu (2015) and Reich & Benbasat (2000). However, our study presents three main findings which adds additional complexity when aiming for alignment between IT and business, consequently explaining why social difficulties might arise in the first place. These three findings are; different pace in an internal and external world, the importance of materialization practices, and the consequences of implementing a new management practice. This in combination has created a complex environment consisting of different work practices. These practices seem to be cooperative or competitive depending on the time horizon of organizational goals. Moreover, these findings highlight the consequences of segmenting, hybridizing and black-boxing each other's social domains and practice repertoires. The consequences will be discussed under the first three categories. Thereafter, a discussion about their implications on business/IT alignment will be outlined.

## A cooperative but competitive relationship to manage pace differences

According to Meyer & Rowan (1977), individuals strive for being legitimized by their contextual environment. This trait was identified in our study as IT adapted to other practices than business. As Friedland & Alford (1991) argue, individuals are affected by the context they encounter and they adapt to this by ordering their reality accordingly. Therefore, the departments' different practice repertoires can be seen as a consequence of the different complexities they encounter. Business operate in an external world outside the organization and face its complexity within turbulent and fast-changing conditions on the market. This speed out on the market exposes business to a faster pace than IT and to respond to their external complexity, business perform practices by being creative, innovative, curious about customers´ needs and acting transparent towards stakeholders. The IT department, in contrast, perform their activities internally within the organization and find its complexity within the existing network of systems. This dependency of existing IT infrastructure makes IT experience a slower pace. To respond to their internal complexity, IT need to be structured, detailed and analytic. As a consequence, the underlying complexity they encounter are characterized by different pace. In addition, this causes frictions between the two departments as the speed of business often result in further complexity within IT´s systems as they cannot act as rapid as business. This was illustrated when business expressed the need for delivering solutions fast to the market but IT expressed the need for more time to implement functions within their systems. Otherwise, it will cause a lot of complexity within their systems which in turn will give IT an even more complex environment to operate within. Therefore, one departments´

practice repertoire seem to violate the other department´s way of working. Our finding about the impact of different paces, challenges and helps to explain Alaceva and Rusu (2015) findings about social barriers. We argue that the pace can be seen as an underlying reason for their social barriers; especially the barrier regarding poor understanding for the counterpart's environment.

As logics help individuals to make sense of their problems (Friedland & Alford, 1991), IT and business seem to be influenced by different logics which guide their actions. Scott and Meyer (1994) argue that logics affect individuals when reasoning about which issues that are considered as salient and how to achieve organizational goals. The business and IT department at TeleCo have a shared understanding for the overall goal of profit maximization but how to achieve this differs. Business put emphasis on increasing revenues by attracting new customers, forming new innovative product offerings, while also pleasing stakeholder interests. This way of reasoning is in line with the market logic, which guides individuals towards pursuit of profit maximization (Thornton, 2004; Thornton et al, 2012; Pache & Santos, 2013), management of competitors (Harris & Holt, 2013; Smets et al., 2015), and considerations for shareholder activities (Thornton et al, 2012). IT employees expressed, in contrast, a focus on decreasing costs by providing good quality solutions with technical expertise, as good quality solutions facilitate technical maintenance. This reasoning seems to be guided by the IT professional logic investigated by Boonstra et al. (2017). The consequence of different ways for how to pursue their overall goal of profit maximizations, is that they violate each other's social domain. Thornton & Occasio (1999) investigated social violation between logics and identified that the process of adhering to one logic is often characterized by violation of either social or material costs. This is illustrated in our study as business continuously want to invest money to develop new IT functionality. This is appropriate for business employees, who want to cope with their fast-changing external environment, but on the expense of violating IT's focus of reducing costs. On the other hand, when IT focus on reducing their costs, it constrains business from investing in new solutions. Altogether, their relationship seems cooperative in the long term and competitive in the short term. In the short-term, the strength of one logic means decrease of impact of the other one (Goodrick & Reay, 2011), while in the long-term, their practice repertoires are complementary as focusing on increasing revenues and decreasing costs enhance the long-term goal of profit maximization. This is in line with Goodrick & Reays´ (2011) study of cooperative logics, where the co-existence of multiple logics expanded the "pie", instead of existing logics which divided the available "pie". Therefore, we argue that the challenge lies on a short-term basis, as the contradictory focus of the departments create tensions in terms of what is considered as legitimized actions in the short term. Hence, the challenge is to meet domain-specific expectations while also minimize the cost of legitimacy from the other department.

Being physically separated can be seen as a segmentation process of logics in an organizational structure (Smets et al., 2015). This segmentation seemed natural for the respondents, and they did not seem to question why they were held separated. This is a typical trait from what Meyer & Rowan (1977) call black-boxing, where its existence and organizational form is taken for granted. According to Goodrick and Reay (2011), segmentation is a mechanism that allow different logics to co-exist in a field as their practices are substantially distinctive from each

other. Our study shows both the advantage and the disadvantage of being physically segmented. As expressed in the empirical data, when IT and business employees are held separated, they are allowed to perform their work within their area of expertise without the other department interfering them. This allows them to focus on what is most important and relevant for them. However, the segmentation does also create frictions when the two logics meet as it impacts their understanding for each other negatively. Thus, their shared domain knowledge is affected and according to Charoensuk et al. (2014), shared domain knowledge has the highest impact on business/IT alignment. Hence, our study illustrates that the frictions from segmentation of logics in an organizational structure can, from a social perspective, prevent business/IT alignment.

Altogether, TeleCo is an organizational field consisting of two logics that are substantially distinctive from each other. The segmentation of the two logics enable them to co-exist within the same field but it has both advantages and disadvantages. According to Greenwood et al. (2011), organizations which consists of logics guiding incompatible prescriptions of actions, are environments characterized by continuous complexity. Having said that, the business and the IT department at TeleCo operates within an institutional complexity where each logic face and respond to different complexities characterized by different pace. Furthermore, the co-existence of the market logic and the IT professional logic, and the friction they encounter varies on a short and a long-term basis.

## The importance of materialization practices to develop IT solutions

IT and business´ work process, to develop IT solutions, is generally divided into three phases. The process from idea to solution shows a shift in how the departments adhere to different logics in each phase and how the logics are segmented in these phases. This is because an IT solution needs input from both the market logic and the IT professional logic to become relevant. Furthermore, this process highlights the importance of materializing the business logic into a document, but also the importance of materializing IT activities into complete solutions. Altogether, the process illustrates how two dominant logics co-exist through a segmentation process, and it explains why frictions arise when they meet.

In the first phase, an idea is induced by business employees who adhere to a market logic which, according to Thornton (2012), guides actions striving for profit maximization by pleasing customer demands. Thus, business employees develop ideas that are attractive in the eyes of customers as it supports their goal achievement. In this sequence, no considerations are given to the IT professional logic. In other words, the IT professional logic becomes what Meyer and Rowan (1977) refer to as black-boxed. Thus, the market logic is enabled to take a more dominant position in the first phase, while the IT professional logic becomes black boxed. By segmenting logics, Pache and Santos (2013) and Tracey et al. (2011) argue that a more innovative and creative process can take place. This was shown in our study as the segmentation process enabled business employees to brainstorm ideas on their own chamber without being interfered by the IT logic. One business employee further stated that if ideas were communicated directly to IT, they would have neglected every second requirement. As a consequence, by segmenting the IT logic away from the business logic, business employees

can benefit by accessing to a deeper practice repertoire when brainstorming ideas, which is in line with Pache and Santos (2013) and Tracey et al. (2011). Consequently, the segmentation process allows two dominant logics to co-exist.

For the business logic to travel into IT´s institutional setting, the business idea needs to be materialized into a document called business requirement. It is first when an idea is inscribed into material as it can travel over to the IT department in a legitimized way. This materialization process is similar to the one Lindberg (2014) found in her study when observing how institutional logics traveled into another institutional setting. In our study, when business ideas are inscribed into requirement specifications, it becomes separated from its institutional environment and the market logic can enter into the IT professionals practice repertoire in a legitimized way. Hence, the process of materializing logics can be seen as a mitigation strategy for enabling the existence of two dominant logics within one field. Therefore, this finding contributes with further insights into why materialization is needed when two logics meet.

In the second phase, IT employees break down the business requirements into IT activities which is in line with Boonstra et al. (2017) study about IT professionals. Consequently, the original business idea travels into a new contextual environment where it becomes influenced by an IT professional logic. The business logic will eventually become embedded in the complexity of IT systems and the IT professional logic will be enabled to take a more dominant position in the second phase. Even if the market logic will become black-boxed, it will still provide silent guidance for future actions within IT´s organizational field (Lindberg, 2014). However, several IT employees expressed that business requirements often are unclear when they receive them. The empirical data identifies two reasons for why they are unclear. Firstly, it might be because business ideas are based on what business have screened from a complex market. This institutional complexity might be hard to materialize and match with local IT activities. Secondly, the practice for how to formulate the ideas into materialized documents seemed to be black-boxed and taken for granted as no one questioned the practice repertoire of how it should be done. As a consequence, poor materialization of requirements cause friction which is, according to Thornton et al. (2012), usual when conflicting logics exist in the same field. However, several respondents also highlighted the advantages of encountering frictions. They meant that IT and business employees can exchange ideas which is positive as it can enhance the end result. In this sense, tensions can be seen as a start of a hybridization of the logics where the adherence to one logic does not mean a social violation of the other one. Instead, the two logics can enact to one hybrid logic which in turn can improve the social relationship between the actors. This is in line with Boonstra et al. (2017) who demonstrated that two different logics can be appropriate at the same time as they can develop into a hybrid logic. Their findings showed enactments that resulted in two hybrid logics but where none became dominant. However, as the work is segmented between IT and business, with a dominant logic guiding each social domain, we argue the logics will never be fully hybridized.

In the third phase, IT and business meet again in an acceptance test. In this test business evaluate the materialized IT solutions by accepting or declining them according to customer needs and stakeholder interests. In other words, this evaluation is guided by the market logic

(Thornton et al., 2012). If the requirements have been unclear in the first phase, or not materialized at all, the likelihood for IT to implement something that business expect decrease. However, even if IT have fulfilled what is stated in the business requirement, business´ expectations might have changed along the way because of the turbulent conditions out on the market. As a consequence, the solutions might not be relevant anymore as they do not fulfill the current market needs. What is seen as a failure according to business then, might be considered as successful according to IT as they have done what they were told to do. In this situation, the institutional complexity within business´ social domain, creates contradictory perceptions of what ends to pursue, which is in line with Smets et al. (2015). Altogether, the materialization of business ideas into documents, and the IT activities into IT solutions, have a central role for how business and IT work together. As outlined in the empirical data, poor materialization adds complexity to their relationship. Consequently, the materialization can be seen as one underlying reason for why it is hard to align business and IT.

## The consequences of implementing a new management practice

The shared understanding for the need of being more fast-moving towards the market, resulted in the implementation of a new agile management practice in 2014 which in turn gave the market logic a more dominant position within the organizational field. However, even if the company aims to adapt to this fashionable management practice, they keep working according to a waterfall methodology in large transformation projects. This means that the pressure of staying fast-moving have not been employed throughout the entire organization and thus, the prevalence of a slower logic still exists within the field. Having said that, the business and IT department operates nowadays in a pluralistic context which is in line with Friedland and Alford (1991) who stated that organizational fields consist of multiple logics. Friedland and Alford (1991) also stated that the employment of logics seems to be fluid. This is illustrated in our study as the respondents had a reversed reasoning about the quality of delivered solutions when they worked agile and waterfall. In this situation, a dynamic relationship was shown and what they considered as appropriate, meaningful and legitimized actions was highly dependent on what work method they used.

The paradoxical reasoning about quality, where the departments´ focus on quality shifts, elucidates the fluid complexity of the field. Even if business and IT have a shared understanding for deliver something to the market, they still encounter friction as their view on what is characterized as a successful solution always seems contradictory. The underlying reasons for their shifts in focus and how they re-adjust themselves in their social process needs further investigation. When IT work within waterfall projects, they shift their focus from deliver something "good enough" to deliver something complete. The reason for IT´s shift is always based on their main purpose; to deliver something that is easy and cheap to manage. As a waterfall project has a large scope, it adds complexity within their IT systems and therefore, it is very challenging and costly to administer if it is not completely implemented. Thus, IT strongly adhere to an IT professional logic where it is more important to deliver a complete solution with good quality and technical autonomy rather than fast to market. Business, in contrast, are highly affected by stakeholders' expectations which is in line with the market logic stated by Thornton et al. (2012) who argue that actions are legitimized by considering the

influence of shareholders. However, we argue that the consideration of stakeholders´ influence must be seen as more dynamic as business response to stakeholders is highly dependent on what work method they adhere to. In a traditional waterfall method, it is all about meeting expectations, while agile is all about exceeding them. As a waterfall setting include a set of prior expectations, for example an explicit deadline, it is more important to consider time-to-market than complete solutions. Having said that, the consequence of implementing a new agile management practice, result in a shift on how they reason about quality. The underlying reason for this shift is in turn based on stakeholders´ influence and the administration of a solution.

The work methods themselves further determine how segmented the logics are. According to Goodrick and Reay (2011), segmenting decides which impact an institutional logic has on different actors, communities and types of organizations. When the respondents work agile, in cross-functional teams, it is more legitimized for IT to employ parts of the market logic. In this setting, IT get feedback from the market, and not only the business department. Furthermore, it reduces the risk of creating unnecessary complexity within their IT systems which in turn enable IT to work more efficient within their systems. Thus, it seems legitimized for IT to involve the market and to incorporate the efficiency aspect originated from the market logic. This questions the general assumption that the IT professional logic is related to technical autonomy rather than the market. On the other hand, when they work in waterfall projects they are working most of the time separately which makes the logics more segmented as the departments adhere to their own logics. According to Purdy and Gray (2009), adhering to one logic, means in organizational terms losing legitimacy to another social domain. Having said that, waterfall projects seem to segment logics and result in loss of legitimacy for the other social domain. In addition, there is a shift in dominance of the logics along the time horizon of waterfall projects. In the beginning, the IT professional logic is dominant as it is all about being structured and detailed. When it gets close to deadline, it is in contrast the market logic that starts to take a more dominant position as meeting stakeholders´ expectations is more important. As a consequence, the dynamics IT and business experience when adopting different logics in context specific situations, highlights the institutional complexity within the organization. Being dynamic and using a creative approach when adopting logics, seems to help both business and IT employees to manage and balance their obligations. Altogether, the implementation of the agile management practice, has affected the relation between business and IT. This has further shown how a work method can affect the enactment of logics which in turn gives rise for additional dimension of complexity.

## Implications on business/IT alignment

Our study shows that business and IT is highly dependent on each other and therefore, their collaboration and understanding for each other's social domain is crucial for achieving business/IT alignment. This has been discussed in previous studies, for example by Reich & Benbasat (2000) and Alaceva & Rusu (2015). However, our study highlights several institutional complexities involved in the process of achieving business/IT alignment which in turn gives deeper insights into why challenges occur when trying to collaborate with each other, and what the implications are on business/IT alignment.

The study shows that IT and business are guided by two different dominant logic; the market logic and the IT professional logic. The logics the departments adhere to is appropriate for managing the complexities they encounter in their specific domain, and to fulfill their purposes. As their logics are segmented, it facilitates each department's focus on practices that are complementary in a business/IT alignment process; the business department´s focus on finding new ideas and strategic agendas, and the IT department´s focus on providing the right technical solutions. Hence, their segmented relationship can be argued to improve business/IT alignment. This finding contributes with new perspectives to the research field of business/IT alignment, illustrating the importance of logics and their impact on social actors' practice repertoires. Furthermore, the study shows the importance of segmenting logics to enable more innovative and creative processes to take place at each department. Having said that, this study highlights the importance of actually embracing institutional complexity, instead of trying to resolve it. This is in line with studies on institutional logics performed by for example Pache & Santos (2013) and Tracey et al. (2011), but it contributes with new insights into business/IT alignment as previous studies have focused on resolving alignment rather than embracing the complexity.

Even if our study identifies benefits of friction when being segmented as this can enhances the end result, being segmented can also entail frictions that violate each other's social domain. For example, business employees' practices are often socially incompatible with IT employees' practices. This is for example demonstrated when business socially violated IT's practices of structurally breaking down requirements into concrete IT activities by sending undetailed requirements. In this situation, business sent ideas that were from a technical perspective hard to perform. In the long term, such situation can harm their relationship as this might create situations where IT turn down ideas that are important from a business perspective. These tendencies can be argued to prevent business/IT alignment. Therefore, a strong segmentation process can be detrimental for their relationship. However, we argue a hybridization of the logics can be facilitative when the logics encounter each other as this improves their understanding for each other. This is in line with previous research which highlighted the importance of shared understanding for improving business/IT alignment (Charoensuk et. al., 2014; Reich & Benbasat, 2000; Alaceva & Rusu, 2015).

Becker (2008) stated that business/IT alignment is the degree of fit between business needs and the support provided by software systems, but we question whom decides whether there is a fit or not. At TeleCo, it seems like the business department has the agency to decide whether the IT solutions have a fit or not with business´ expectations. As business' social domain is exposed to an environment characterized by fast-changing pace, their perceptions of what is considered as a fit change quickly. In addition, it can be questioned whether business employees have sufficient technical skills to decide upon this. On the contrary, it can also be questioned whether IT employees have sufficient insights into business operations to decide whether business has the right support of IT systems.

In short, this study confirms previous business/IT alignment studies (Charoensuk et. al., 2014; Alaceva & Rusu, 201; Reich & Benbasat, 20004), which highlight the importance of shared domain knowledge for business IT/alignment. In addition, our study challenges previous

studies by highlighting the importance of embracing complexity. We put emphasis on segmenting logics as this enhances innovation and creativity within each departments' practice repertoires. Furthermore, we argue that it is important to balance the segmentation with a hybridization between the two logics to improve their social relationship. The results of this study also identified the benefit of friction between logics as friction was perceived as necessary to succeed with the materialization.

# Conclusions and implications

The purpose of this study was to investigate the complexity of why it is hard to achieve business/IT alignment from a social perspective. The study identified three main findings bringing additional complexity to the process of achieving alignment; the pace of an internal and external world, the importance of materialization practices and the consequences of implementing a new management practice. The consequence of operating in worlds characterized by different pace is that business and IT face and need to respond to different complexities. This impact what is considered as legitimized actions in certain situations. In other words, as IT and business face different complexities, they do also adhere to different dominant logics within their organizational field; IT adhere mostly to an IT professional logic while business adhere mostly to a market logic. The enactment of those logics seems to be fluid and dynamic. Furthermore, it seems like they have a cooperative relationship in the long term and a more competitive relationship in the short term as they have different ways for how to pursue their overall goal of profit. This in turn makes them violate each other´s social domain. As a consequence, the social challenge of understanding the counterpart´s complexity and the friction from segmenting the logics, seem to affect their relationship negatively on a short-term basis and thus, it prevents them from achieving business/IT alignment.

However, our study challenges the fashionable idea of always striving for alignment as several benefits were identified when the departments were segmented and encountered friction. First, a segmentation process allows two dominant logics to co-exist in the same field. Secondly, this process enables business and IT to access to a deeper practice repertoire. The friction which arise from the segmentation when the two logics met, had benefits as it gave energy for discussions which often resulted in better solutions. Therefore, it is not always beneficial to strive for alignment. However, a too strong segmentation can create frictions that harm the relationship between business and IT. In addition, our study highlights the importance of materialization when two logics meet. We argue that it is first when a business idea is inscribed into a document as it can travel over to the IT department in a legitimized way. Furthermore, the materialization affects how efficient the departments can perform their work and it increases the likelihood for IT to implement the right solutions. As the respondents expressed a poor and unstructured materialization process, the materialization can at TeleCo be seen as one underlying reason for why it is hard to align their business and IT department. However, the fast-changing institutional complexity which business face in their social domain out on the market, creates sometimes contradictory perceptions of what ends for IT to pursue, no matter how good the materialization has been.

Business and IT has a dynamic relationship and what they considered as appropriate, meaningful and legitimized actions was highly dependent on what work method they used. The consequence of implementing a new agile management practice, resulted in a shift on how the departments reasoned about quality. The underlying reason for this shift was in turn based on stakeholders´ influence and the administration of solutions. However, we argue that the consideration of stakeholders´ influence must be seen as more dynamic as business response to stakeholders is highly dependent on what work method they adhere to. The work methods themselves further determine the segmentation and enactment of logics. This in turn, result in additional dimension of complexity. Altogether, the dynamics IT and business experience when adopting different logics in context specific situations, highlights the institutional complexity within their organizational field. We argue that this institutional complexity will always be present in their relationship, and the segmentation of the departments can both prevent and improve business/IT alignment. Having said that, this study highlighted the importance of actually embracing institutional complexity rather than trying to resolve it. Based on that, we argue alignment needs to be balanced by both segmentation and hybridization of logics.

The study contributes with several theoretical insights to the research field of business/IT alignment, when revealing the institutional complexities involved in an alignment process. As previous studies mainly have taken a structural and functional approach to business/IT alignment, our study contributes with a social perspective on the phenomenon. Moreover, as previous studies have outlined social issues without providing in-depth reasoning why they exist, our study contributes with several reasons behind contradictory behaviors. Furthermore, our study contributes with theoretical insights to the research field of information systems by challenging the idea of always striving for alignment.

In addition, our study contributes with theoretical insights to the research field of institutional logics. Firstly, it highlights the importance of pace in an organizational structure when investigating the enactment of logics. Secondly, our study shows how the implementation of a new management practice affect the adherence of logics and it does also illustrate the dynamism behind stakeholders´ influence. Finally, our study contributes with insights to how frictions can result in a hybridization process between logics when actors start to discuss and negotiate disagreements.

Practical insights can be given to both business and IT employees, as the study provides deeper insights into why they might perceive difficulties when collaborating and as it highlights the importance of not always being fully aligned. Furthermore, this study provides managers with three practical insights which can help them understand the underlying challenges when trying to align business operations with IT operations. When managers have acknowledged the problem, they can work more proactively with finding an optimal organizational structure which encourages a good business/IT alignment process to take place.

We argue future research within business/IT alignment is needed as organizations all over the world will continue their journey towards digitalization. Thus, the alignment of business and

IT operations will continue to be important also in the future. As our study has matched the empirical data with examined institutional logics, we suggest future research to induce logics on a micro level. This could give deeper insights into the dynamics behind the relationship between business and IT. In addition, since our study have geographical limitations, as it is performed within the Swedish telecom industry, it would be interesting to look at the phenomena from another cultural perspective and/or within another industrial setting.

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