



UNIVERSITY OF GOTHENBURG
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Improving Supply Chain Collaboration through Planned Change

Towards an approach for change management in supply chains

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Abstract

To mitigate disruptions in supply chains, organizations must consider not only risks affecting their operations but also those which affect their partners. As a consequence, supply chain disruptions can only be dealt with through a collaborative effort by the supply chain as a whole. To improve their management of disruptions and ensure their continued existence, organizations need to increase collaboration in their supply chain. This requires changes to be made both internally and externally in the supply chain. Yet scholars provide little advice regarding how planned changes can be implemented and maintained outside organizational boundaries. This thesis aims to help organizations improve their supply chain collaboration by attaining an increased understanding of how planned changes can be implemented in a supply chain context. The results of the study show that an extraordinary event, such as a major disruption, was sometimes required for the change process to start. A crisis may thus present an opportunity for organizations to improve their supply chain collaboration. Furthermore, the process of improving collaboration differed when buyers and suppliers were more or less dependent on each other. Collaboration improved with more ease when there was a mutual dependency between partners, while independence prevented it from developing. Practitioners have to consider this when implementing planned change initiatives, preferably by using different strategies for different partners. However, this approach means that some existing change models may become difficult to apply in practice. More research needs to be conducted to make these applicable to supply chains.

Keywords: Supply chain collaboration, collaboration enablers, change management, planned change

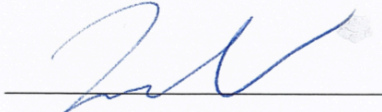
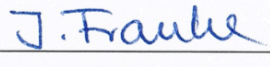
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1. Introduction

This chapter will start with a short background of disruptions and its effects on supply chains. Thereafter follows a problem discussion regarding which ends with the formulation of the research question treated in this thesis. The chapter ends with a presentation of the thesis delimitations and disposition.

1.1 Background

No supply chain is immune to disruptions (Ekanayake et al., 2020). During the last decades, organizations worldwide experienced disruptions in the flow of goods in their supply chains by unplanned and unanticipated events such as natural disasters, trade disputes, and geopolitical uncertainty, amongst others (ibid.; Craighead et al., 2007). The most recent major disruption occurred in 2020 as the SARS-CoV-2 virus (henceforth Covid-19) caused a pandemic that resulted in disruptions to supply chains globally (Sherman, 2020). During this year, organizations faced challenges with disruptions to supplies, restrictions in transports, and cancelations of orders (ibid.). The number of major disruptions, such as the Covid-19 pandemic, have increased both in frequency as well as in magnitude over the past decades (Ekanayake et al., 2020). This has forced organizations to implement changes to make their supply chain more resilient (ibid.). However, linkages between organizations in a supply chain can easily cause disruptions to spread among its members, making supply chain resilience an inter-organizational concept. To identify, assess and mitigate a disruption occurring in a supply chain, organizations must consider not only risks affecting their operations but also risks that affect other actors in the supply chain (Jüttner et al., 2003). Consequently, scholars broadly agree that supply chain disruptions need to be dealt with through collaborative efforts by its members (Gutierrez et al., 2020; Jüttner et al., 2011; Scholten & Schilder, 2015).

To improve their management of disruptions, organizations need to increase collaboration in their supply chain (Hendricks & Singhal, 2008; Fawcett, 2008). According to Duhamel et al. (2016) and Prakash et al. (2016), collaborative supply chains are more efficient in overcoming disruptions, and therefore less likely to experience long-lasting negative effects on financial performance as a result of disruptions. To develop collaborative relationships, changes have to be made both internally within the organization, and externally with other parties in the supply chain (Fawcett, 2008; 2010). These could include changing how information and resources are

shared, decisions are made, processes are aligned, and how relationship performance is measured (Fawcett, 2008; Singh et al., 2017; Scholten & Schilder, 2015). Changes in several strategic elements such as commitment and trust have also been proven necessary to maintain supply chain collaboration in the long term (Barratt, 2004; Ireland & Bruce, 2000). Nevertheless, numerous cultural and structural barriers within the organization stand in the way of implementing these changes (Fawcett et al. 2010). In addition, the interdependencies between members in a supply chain mean that barriers can also arise from the activities and behavior of supply chain partners (Fawcett et al., 2008;2010; Ali et al., 2017). Organizations often underestimate the complexity of overcoming these internal and external barriers, causing them to plunge ahead without properly planning how change should be brought about (Fawcett et al., 2012; Kotter 2012). The resulting improvements are many times disappointing, and resources go to waste (ibid). This necessitates further research into how organizations can successfully implement changes to improve collaboration in their supply chains.

1.2 Problem discussion

Change management can be defined as the process of moving an organization from its current state to another, preferred state, through a number of planned initiatives (Barratt, 2004). The change management literature contains a considerable amount of disagreement regarding what is the most effective way to induce change in organizations, and even less is known about creating changes in supply chains (Bamford & Forrester, 2003). As a result, Bamford and Forrester (2003) found that managers sometimes have difficulties discerning which approach to use and have doubts regarding the appropriateness of applying the literature in practice. These doubts are often further exacerbated by the numerous studies which depict change initiatives went wrong (ibid.).

Within the past decades, an increasing number of disruptions have driven organizations away from simple, transactional connections, towards more collaborative relationships (Fawcett et al., 2010). Motivated by the benefits which supply chain collaboration could bring, many organizations have declared that they will focus on increasing their collaboration (ibid.). But even if many observant organizations have noticed the need for improving collaboration in their supply chains, the needed change can still be hampered for several reasons (Kotter, 2012). One significant reason why planned change efforts are likely to fail on an organizational level

is due to internal resistance resulting from the culture or structure of the firm, both of which managers can influence (ibid.). Looking at the supply chain level, resistance does not only emerge internally but can also arise from external inter-firm relationships (Fawcett et al., 2008). Insufficient information sharing, lack of managerial support, and a lack of trust have all been found to prevent improved collaboration in buyer-supplier relationships (Singh et al., 2017; Scholten & Schilder, 2015). Such constraints make it difficult for buyers and suppliers to achieve the level of integration of resources and practices needed to achieve a high level of collaboration (Fawcett et al., 2012).

It is only by tending to constraints occurring in inter-firm relations that supply chain collaboration can be improved. As such, any method dedicated to improvements in supply chains must address these barriers (Fawcett et al., 2012). Failed change initiatives are frequently cited to be the result of organizations attempting to implement a ‘one size fits all’ method (Burnes, 2004). This approach is mostly deemed unsuitable in literature because organizations vary in their characteristics and requirements (Kotter & Schlesinger, 2008). A good change method thus has to be tailored to the unique organizational context (ibid.). Arguably the most prominent method fitting this criterion was developed by Kurt Lewin during the 1940:ies (Bamford & Forrester, 2003). Lewin’s work laid the foundation for organizational planned change and to a large extent change management as a whole (ibid.). Lewin (1947a; b) believed that organizations exist in a steady equilibrium until forces arise which necessitates change. Motivated by these forces, the organization would enter into a transition phase meant to bring about the desired change. During this process, the organization will face resistance which managers need to overcome, or else the change initiative is likely to fail, and the firm will revert to its previous equilibrium state (ibid.).

A few researchers such as Fawcett et al. (2008) and Swanson et al. (2016) have applied change methods and models, like Lewin’s approach, in a supply chain setting. However, developing approaches that can be applied to supply chains has proved difficult, as organizations typically have very limited abilities to make changes in their supply chain partners’ operations (Lambert et al., 2000; Fawcett & Waller, 2014). Consequently, scholars and organizations alike fail to determine the conditions for implementing planned changes in supply chains (Fawcett et al., 2012). There is relatively little guidance from academia regarding how to change barriers against collaboration for the better (ibid.). Nor does the change management literature foretell

if a successful change in supply chains is always possible, or whether this depends on some hitherto underexplored criterion. This brings us to the purpose of this thesis.

1.3 Purpose formulation

This thesis aims to attain an increased understanding of how planned changes can be implemented in a supply-chain context to improve collaboration between buyers and suppliers.

1.4 Research question

How can an organization improve its supply chain collaboration through planned change?

1.5 Delimitations

This thesis focuses only on vertical collaboration between buyers and suppliers within a supply chain. Organizations that are engaged in horizontal collaboration, such as competitors and governments, are thus not treated within the study. This may have an impact on how accurately the findings of the study can be transferred to other companies. While literature identifies numerous collaboration enablers, this thesis only analyzes five of the most common ones in-depth. Furthermore, this thesis assumes that change can be deliberately implemented in an entity such as an organization or a supply chain. The focus of the thesis is therefore on planned rather than emergent change. Another assumption held within this thesis is that forces exist which affect an organization's ability to form collaborative relationships with buyers or suppliers. The purpose of this study will not be to determine which these forces are as numerous researchers already studied and confirmed their existence.

1.6 Outline of the thesis

Introduction: The first chapter covers the background of the topic at hand, as well as a problem discussion regarding its practical and theoretical relevance. Based on this discussion the aim of the thesis and the research question is presented. The chapter also includes a description of the delimitations of the thesis.

Literature review: The second chapter starts with a review of relevant literature within the field of supply chain collaboration and describes how organizations can improve their collaboration capabilities with the help of various enablers.

Theoretical framework: The second chapter continues with an in-depth description of the relevant theoretical frameworks and models within the field of change management. The main focus is on Lewin's 3-step model of change.

Methodology: The third chapter describes the methodology, data collection methods, and the method used for analyzing the data in the thesis.

Empirical findings: The fourth chapter includes a summary of the empirical data which was collected during the study.

Analysis: The fifth chapter contains an analysis of the core points of data that were collected using the previously developed theoretical framework.

Conclusion: In the sixth chapter the main conclusions of the thesis are summarized and an answer to the research question is presented. The chapter ends with a presentation of research limitations as well as suggestions for future research.

2. Literature review

This chapter aims to give the reader a comprehensive overview of the existing literature on supply chain collaboration and how organizations can increase their collaboration capabilities.

2.1 Collaboration in supply chains

Supply chain collaboration is defined “as a partnership process where two or more autonomous firms work closely to plan and execute supply chain operations toward common goals and mutual benefits” and is considered as the key to the success of organizations in the upcoming years (Cao & Zhang, 2011, p. 166; Fawcett et al., 2008; 2010). Supply chain collaboration involves, but is not limited to, sharing joint objectives, sharing of information and resources, joint decision-making as well as creating mutual trust and commitment (Yi et al., 2016; Cao & Zhang, 2011; Ramesh et al., 2008). If supply chain partners collaboratively work with each other, they can get access to resources, skills, and markets that would be impossible for each firm to acquire by their own accord. Collaboration enables organizations to reduce lead times, improve quality, reduce overall costs and increase flexibility as well as responsiveness towards customers (ibid.). Moreover, collaborative supply chains are able to solve problems faster and are more efficient in overcoming disruptions that emerge in the supply chain (Duhamel et al., 2016; Prakash et al., 2016). Ultimately, supply chain collaboration leads to an improved performance for all involved members and can be a valuable source of competitive advantage (Min et al., 2005; Fawcett et al., 2008; 2010). Frohlich and Westbrook (2001) argue that the more integrated supply chains become, the greater the potential benefits of collaboration. Organizations with little or no collaboration need to change towards a more collaborative attitude in order to realize these benefits and compete in today's markets (Ireland & Bruce, 2000; Fawcett et al., 2008; 2010).

Organizations can engage in two different forms of collaboration, namely horizontal collaboration and vertical collaboration (Hong et al., 2014; Barratt, 2004). Horizontal collaboration takes place between firms that are either competitors or other unrelated organizations that are at the same level of the supply chain (Simatupang & Sridharan, 2004). Engaging in horizontal collaboration, especially between competitors, might seem odd as the firms directly compete against each other. Nevertheless, a collaboration between the two parties, for instance, two manufacturing companies, might increase the productivity of both

and therefore increase both parties' revenue (Hong et al., 2014). Vertical collaboration in the supply chain can take place in three different forms (Yi et al., 2016; Barratt, 2004). An organization can collaborate with either supplier, customers, or internally across different functions (ibid.). The main motivation behind this type of collaboration is to guarantee an undisruptive flow of information as well as goods from the start to the end of the supply chain (Prakash et al., 2016). Outcomes might include more accurately fulfilling customer needs, increased internal integration, and decreasing the need for large stockings, but are not limited to those (ibid.). As this thesis studies supplier and buyer relationships, vertical collaboration will from here on out simply be referred to as 'collaboration'.

Collaboration can also be internal or external in nature (Barratt, 2004). Internal collaboration refers to cross-functional integration between different departments within the organization. Increasing degrees of internal collaboration can lead to better supply chain performances as information sharing, and alignment of interests and goals between departments will ensure that the organization is united. External collaboration describes the process of developing a joint approach of expectations, objectives, and potentially emerging risks with suppliers, customers, competitors, or non-related firms (Ghaderi et al., 2012; Kache & Seuring, 2014). If organizations manage internal and external collaboration well, it will enhance the efficiency of the supply chain for all involved parties as explained earlier (ibid.). Organizations that want to improve their collaboration capabilities to realize these benefits, might need to change how current practices and activities are performed or implement additional activities (Fawcett et al., 2008). Only if the entire organization adjusts accordingly, it will be able to advance internal and external collaboration and therefore the performance of the supply chain (ibid.).

2.2. Supply chain collaboration enablers

Although research about supply chain collaboration is abundant, translating collaboration theories into reality has proven to be a difficult task (Bamford & Forrester, 2003). A study by Frohlich and Westbrook (2001) investigated the degree of supply chain integration among manufacturing firms with the result that each firm implements a different level of supply chain collaboration. The authors conclude that different levels of integration along the same supply chain can prevent all involved organizations from reaching the utmost performance (ibid.). Further studies demonstrated that many organizations struggle to implement the concept of

supply chain collaboration (Fawcett et al., 2010). Literature, therefore, identifies several different so-called ‘supply chain collaboration enablers’. Enablers are activities or practices firms implement “[...] to strengthen interfunctional and interorganizational interaction and relational quality” (Fawcett et al., 2012, p. 54) and thus improve an organization’s collaboration capability when implemented. Based on an extensive literature review, this thesis focuses on five collaboration enablers that are considered to be the ones which are most commonly used by organizations (see for example Singh et al., 2017; Scholten & Schilder, 2015). Namely, information sharing, dedicated investment, joint relationship effort, performance measurement, and trust. The importance of each enabler and how they can improve the performance of collaboration will be presented in the following.

The most important enabler to increase the collaborative capability of an organization is information sharing (Friday et al., 2018; Doung & Chong, 2020). Information sharing is the process of sharing relevant, complete, and accurate plans, procedures, and ideas with supply chain partners (Scholten & Schilder, 2015). Faisal et al. (2006) and Simatupang and Sridharan (2011) argue that high levels of information sharing are essential in establishing effective processes along the supply chain. Moreover, information sharing can be considered as a business requirement and is key to collaboration (Ramesh et al., 2008; Fawcett et al., 2007). Sharing information with external parties, such as suppliers or customers, is equally important as sharing information internally across different departments (Duhamel et al., 2016). Firms without good internal information sharing will run into difficulties such as, inter alia, not fulfilling customer orders, or poorly managing risks that affect multiple business areas. The same logic can be applied to supply chains. If the actors along the supply chain do not share information the overall performance will likely be poor (ibid.). By frequently sharing information, organizations gain a better understanding of their internal situation as well as the situation with external partners, allowing them to align incentives and goals both internally and externally (Friday et al., 2018; Doung & Chong, 2020). Information supply chain partners need to share with each other can include product orders, demand forecasts, upcoming trends, possible disruptions, and delivery times but are not limited to those (Nyaga et al., 2010; Min et al., 2005). By having access to such information organizations can identify potential risks, make effective decisions and increase the level of trust between the partners (ibid.; Doung & Chong, 2020; Min et al., 2005). Consequently, information sharing is crucial for other collaboration enablers such as joint practices, dedicated investments, and trust (Ramesh et al., 2008; Fawcett et al., 2007).

The second identified collaboration enabler is often referred to as dedicated investment (Huang et al., 2020; Doung & Chong, 2020; Rajaguru & Matanda, 2019). Dedicated investments can be all financial and non-financial resources a company possesses that can be shared with others (Doung & Chong, 2020; Fawcett et al., 2008). Min et al. (2005) argue that dedicated investments are a requirement for sustained collaboration. The more interdependent two supply chain partners are, the more dedicated investments they are expected to make (Scholten & Schilder, 2015). Nyaga et al. (2010), Cao et al. (2010), and Rajaguru and Matanda (2019) share this view in concluding that relationships with great success are also relationships in which both partners make dedicated investments. According to these authors, increasing levels of resource sharing allow for better process alignment and integration and thus ease the flow of material and goods. Thereby joint relationship efforts such as joint planning or joint problem-solving can be facilitated, which is especially important when the supply chain faces a disruption (ibid.; Min et al., 2005; Huang et al., 2020).

Furthermore, organizations need to make joint relationship efforts that enable planning and coordinating activities but also resolving problems that emerge along the supply chain together (Nyaga et al., 2010). Some examples of joint practices are joint planning, joint decision-making, and joint problem-solving (ibid.). Joint planning refers to developing, aligning, and prioritizing the goals and objectives of the collaboration in the short and long term (Singh et al., 2017; Kumar & Banerjee, 2012). This involves, inter alia, production schedules, budgeting, and future purchases (ibid.). Joint decision-making can be described as coordinating the decision process along the supply chain to ensure compatibility and reduce disagreements between the partners (Friday et al., 2018). Joint problem-solving deals with resolving conflicts and disagreements between the parties (Kumar & Banerjee, 2012). Conflict resolution is crucial to maintain the relationship because disagreements are likely to occur in collaborations (Singh et al., 2017). Engaging in all three activities will contribute to the success of the relationship through the sharing of relevant information and building trust between the involved parties (Nyaga et al., 2010).

Performance measurement is another practice that supply chain partners should engage in to increase their collaboration capability (Friday et al., 2018; Singh et al., 2017; Doung & Chong, 2020). The more integrated the supply chain partners, the more important it becomes to measure the outcome of the relationship (Kache & Seuring, 2014). This involves evaluation of financial as well as non-financial aspects by for example setting up key performance indicators, (Henceforth KPI's) (Simatupang & Sridharan, 2008; 2011; Min et al., 2005). KPIs are

quantifiable measures that organizations use to evaluate the success by which certain targets are reached. Relationship-related KPIs often relate to the productivity of the relationship or target delivery performance (ibid.). Performance measurement systems monitor the flows of goods and material and document the benefits of the relationship and thus provide a key source of data for information sharing and joint relationship efforts (Fawcett et al., 2010). An organization can determine whether or not a relationship is at the desired level by comparing the performance of a relationship to a set KPI (Singh et al., 2017; Simatupang & Sridharan, 2008). If a subpar performance is detected, corrective action measures can be developed and implemented to reach the desired level (ibid.). Therefore, performance measurement can drive the performance of the relationship and improve the collaboration between two partners (Kumar & Banerjee, 2012).

Trust is considered the binding force in relationships among supply chain partners (Ramesh et al., 2008; Fawcett et al., 2008; Faisal et al., 2006). It can be defined as “the extent to which relationship partners perceive each other as credible and benevolent” (Nyaga et al., 2010, p. 104). It is one of the most important aspects of collaboration as it directly influences all other activities and practices that organizations engage in. Increasing trust between two parties can be achieved through frequent and effective communication as well as consistent and predictable behavior over a certain period of time (ibid.). High levels of trust will foster the quality of, for example, information sharing and joint relationship efforts, which in turn can increase the levels of trust even further (Fawcett et al., 2008; Faisal et al., 2006; Joshi & Kant, 2012). Joshi and Kant (2012) therefore conclude that trust is fundamental if organizations want to implement supply chain collaboration effectively.

To summarize the above, all introduced collaboration enablers are meant to improve and support the supply chain collaboration capability of firms (Ramesh et al., 2008). While trust is the connecting link between all enablers, information sharing is at the core of collaboration (ibid; Fawcett et al., 2007; 2010). The three other enablers are facilitated by trust and information sharing and in turn can further improve both (ibid.). As all enablers are interdependent, managers must develop a good strategy and facilitate the implementation of all chosen enablers. As the process from implementation until success often takes some time, managers need to ensure continuous engagement in enabling activities (Kotter, 2007). Only then will the organization reach better collaboration capabilities and achieve improved supply chain performance (ibid.).

3. Theoretical foundations

The aim of this chapter is to present the reader with the theories which will later be applied to analyze the data gathered in this study. The theoretical framework is connected to organizational change management and the model which will be used in this study is known as Lewin's three-step model and is part of the field theory.

3.1 Introduction to change management and planned change

Change in organizations can be viewed “as a process that moves from one ‘fixed state’ to another through a series of pre-planned steps” (Bamford & Forrester, 2003, p.547). This process is often referred to as planned change and it has been the dominant approach within both theory and practice for the past decades (ibid.). Planned change has its foundations in the work published by Kurt Lewin in the 1940s (Burnes, 2020; Burnes & Cooke, 2012; Rosenbaum et al., 2018). In these publications, he described field theory, group dynamics, and the three-step model of organizational change, all of which will be explored within this chapter.

Since its publication, numerous researchers have developed upon Lewin’s original theory (Rosenbaum et al., 2018). Together with the work of Lewin many of these studies would later lay the foundation for the field of organizational change management (ibid.). Al-Haddad & Kotnour (2015) conducted a review of change management literature and found several researchers who developed change models based on Lewin’s work. As portrayed in Figure 1, these models follow the same pattern as Lewin’s approach to change (ibid.). The similarities which subsequent theories hold to Lewin’s approach to change has made researchers such as Rosenbaum et al. (2018) question whether they have added anything to the study of change management or if they simply added more details to each phase of the change process.



Figure 1: Change management methods. Adapted from Al-Haddad & Kotnour (2015)

Despite its success, Lewin's planned change approach has been strongly criticized by researchers such as Kanter et al. (1992), Child (2005) and Clegg et al. (2011) who believed it is too simplistic to accurately describe how changes can be made in organizations. Defenders of the approach argue that this criticism at large stems from a misconception of how Lewin's work should be applied in practice (Rosenbaum et al., 2018). Lewin classified his approach to change as a metatheory, meaning that it informs all his other concepts, including the three-step model which has faced the most criticism (Burnes, 2020). All parts of the theory should be

considered as parts of an integrated system, and any analysis made using field theory has to take into consideration Lewin's work altogether. Thus, despite the critique, many consider Lewin's approach to planned change as relevant today as when it was first published (Bugubayeva, 2017; Burnes, 2020; Burnes & Cooke, 2012; Rosenbaum et al., 2018).

3.2 Lewin's approach to change

Lewin's approach to change comprises four elements. These include three concepts, namely field theory, group dynamics, action research, and one model known as the three-step model of planned change (Burnes, 2004). Though these are often treated separately they should be considered as part of a whole. To bring about sustained change in organizations, all parts are necessary (ibid.).

The most fundamental concept within Lewin's planned change process is the existence of 'fields' and 'forces' which Lewin describes in his field theory (Lewin, 1942; 1947a; b). According to Lewin, a force is something that either propels or hinders movement towards a certain goal. These forces thus have the capability to either enable or hinder organizational change (Wong-Mingji, 2013). For example, Lewin (1974a) found that production output from a factory often remains stable over time because factors that drive higher output (such as a desire to earn more money) exist together with factors that restrain higher output (such as the lack of motivation required to work harder). In this example, the drive to earn money is a force that enables change, while the lack of motivation is a force that hinders it (ibid.). These resisting forces can also hinder organizations from quickly responding to disruptions (Ali et al., 2017; Pereira et al., 2014; Swanson, 2016). They also freeze organizations into non-collaborative behaviours, threatening the existence of organizations which are unable to change in time with their external environment and collaborate as effectively as their competitors (Fawcett, 2010; Friedman, 2000; Lee, 2004). Understanding and dealing with resisting forces is therefore essential in building collaborative supply chains which are resilient to disruptions (Ali et al., 2017).

The forces in a field can be divided into two categories, internal or external (Lewin, 1974a; b). Internal forces encompass any factors which are embedded in the entity's internal composition or norms such as values, beliefs, and feelings (ibid.). Common internal forces within

organizations are related to the organizational culture, the organization’s vision, and goals (Dent & Goldberg, 1999; Kotter, 2007). External forces, on the other hand, arise from the external environment and could be related to certain events or contexts. Common external forces for organizations include trade disputes, geopolitical conditions, and economic fluctuations (ibid.). When all forces which drive and inhibit change are put together, they create what Lewin referred to as a field. By identifying the forces in a field, organizations can gain an understanding of how to achieve the desired change (Lewin, 1947a). This is often portrayed in the form of a force field analysis which in a simple manner portrays resisting and driving forces for a particular change initiative (ibid.). Figure 2 shows an example of a force field analysis for an organization that wishes to go from a non-integrated individual firm towards being a collaborative supply chain partner. Figure 2 has been adapted from Fawcett et al. (2008) and shows what he argued to be the driving and resisting forces for improved supply chain collaboration.

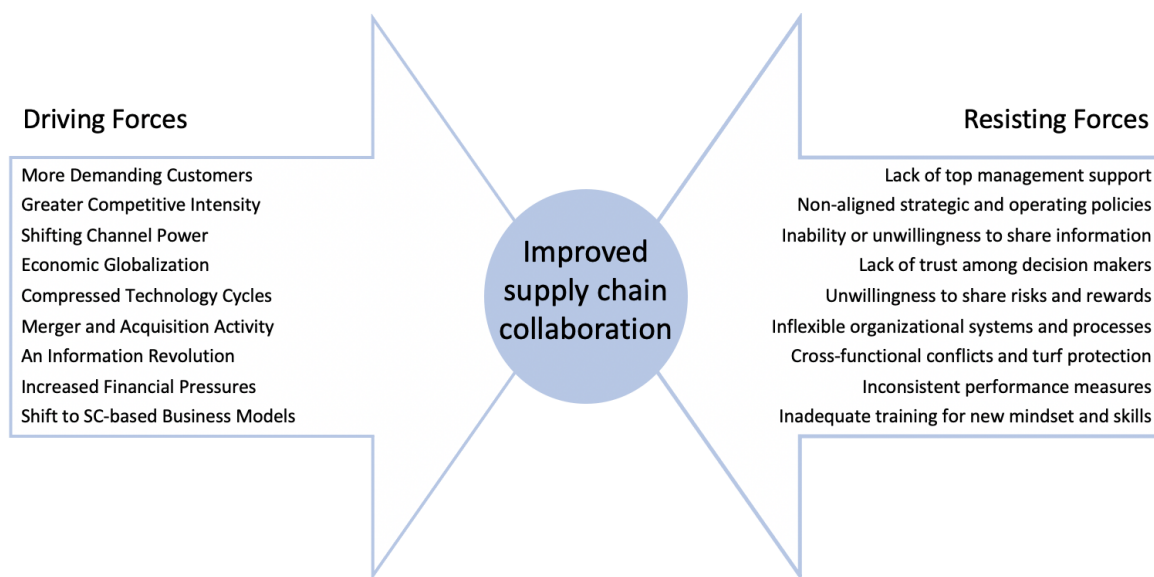


Figure 2: Force field analysis of supply chain collaboration. Adapted from Fawcett et al. (2008)

For planned change to take place the driving forces must outweigh the restricting forces (Lewin, 1947a; Zand & Sorensen, 1975). Thus, change can be brought about either by diminishing or strengthening the forces acting for or against the desired change (ibid.). Fawcett et al. (2008) therefore argued that if forces that resist collaboration (right) are stronger than the forces which drive collaboration (left) then the organization will be stuck in an equilibrium state and will therefore not improve its collaboration (ibid.).

The second fundamental concept of change developed by Lewin concerns group dynamics. The concept of group dynamic was informed by Lewin's 1946 paper on action research which since its publication has been largely informative in changing the process of research. Lewin took his ideas of inclusiveness from action research and applied the learnings on group dynamics by emphasizing the importance of including all those involved in a change. (Burnes et al., 2012). Lewin (1947a) thus emphasizes the role of the group in creating changes. He believed that change must be implemented at the group level because individuals operate under the pressures of the group. Consequently, change strategies should be targeted at changing the beliefs of the organization or group rather than the individual (ibid.; Bemstein, 1968; Dent & Goldberg, 1999; Kotter, 2007).

After developing the field theory and group dynamics Lewin (1947a; b) developed a three-step model for achieving permanent planned change. According to Lewin, successful change would involve three aspects, namely "unfreezing the present level [...] moving to the new level [...] and freezing group life on the new level" (Lewin 1947a, p. 35). The three steps which Lewin refers to here have become known as the unfreezing stage, the movement stage, and the refreezing stage and they make up what has become known as 'Lewin's three-step model'. The model has been cited as the most influential approach to change in organizations and has laid the foundation for the development of numerous other models (Burnes, 2004; 2020). Amongst these Kotter (2007) has been instrumental in expanding and adapting the model to an organizational setting by identifying the errors that managers make at each step which causes change efforts to fail. As the three-step model will be instrumental in the study, each step of the model will be explained in detail below.

3.2.1 Unfreezing

For a planned change to take place in an organization it needs to go through what Lewin (1947a) refers to as an 'unfreezing' process. Organizations can 'unfreeze' from their current state by generating a commonly accepted view for why a change is necessary (ibid.; Kotter, 2007; Luecke, 2003; Wong-Mingji, 2013). Kotter (2007) who is well known for his successful expansion of Lewin's change process describes this unfreezing process as follows.

Successful change begins when some individuals in an organization start to scrutinize their company's market position, revenues, or external trends that have thus far gone unnoticed (Kotter, 2007). Multiple studies argue for supplier mapping as a tool for managers to detect

any areas in need of improvement (Fawcett et al., 2008; Lund et al., 2020; Barroso et al., 2011). Supply chain mapping is an internal tool that organizations can use to visualize the current state of a supply chain (Barroso et al., 2011). By engaging in the mapping process, the organization assesses the risks associated with each actor and location. Pinpointing any vulnerable areas in the supply chain may help managers identify where and why they should focus their efforts to change or improve upon any discovered issues (ibid.). If a need for change is discovered then the next step involves creating a sense of urgency in the organization (Kotter, 2007). If what has been discovered relates to a potential or actual crisis, then increasing the urgency level is often easier. Events such as economic crises are oftentimes so visible that the need for change in these instances is apparent to the whole organization from the start. Kotter however argues that the preferred option is to focus on creating urgency through effective communication rather than to wait for a crisis to occur (ibid.).

The final step of the unfreezing process involves the communication of the need for change (Kotter, 2007). Kotter (2007) found that around 75% of managers needed to be accepting of the need for change before the unfreezing process can start. Achieving this degree of acceptance may however be difficult, as managers which raise a concern regarding a need for change often face heavy criticism. Similarly, McNamara et al. (2002) found that managers may avoid sharing certain information about a need for change in order to seem in control of the organization. To avoid such an occurrence information about the urgency to change should be shared through every channel available to reach as many individuals as possible (ibid.). According to Lewin (1947a) engagement of the organization as a whole is also crucial in the unfreezing stage, as changing the standards of the group is the easiest way to change the individuals therein. In line with Lewin's idea, Kotter (2012) found a correlation between participation in a change process and a higher degree of commitment to the cause. He argued that this means that resistance can be forestalled by involving individuals which may be opposed to some aspects of the change in its planning process. A common understanding can therefore help minimize the resistance in the organization once the change initiatives are implemented at the second stage. However, Kotter also acknowledges that if a change needs to be immediate, then involving all relevant parties might take too much time and result in poorly planned strategies (ibid.).

3.2.2 Movement

Lewin (1974a; b) referred to the second phase of the model as the movement stage. At this stage, the organization starts to engage in activities that are specifically designed to bring about the planned change. According to Lewin, change occurs either by “adding forces in the desired direction or by diminishing opposing forces” though in general, the diminishing of opposing forces is the preferred method (Lewin, 1947a, p.26). Kotter (2007) and Swanson et al. (2016) argued that the most common error made by managers at the movement stage is to not remove obstacles that hinder the new vision. He suggested that such obstacles may exist in the structure of the organization in the form of faulty targeted performance-appraisal systems or narrowly defined job roles (ibid.). For managers wishing to increase supply chain collaboration, the movement phase involves tipping the balance towards collaboration by either implementing certain enablers (Frohlich & Westbrook, 2001; Min et al., 2005) or take initiatives to reduce forces that restrict collaboration, such as lack of managerial support or an unwillingness to share information (Fawcett et al., 2008; Wong-Mingji, 2013).

A variety of enablers have been identified as being capable of improving supply chain collaboration when implemented. Having a collaborative culture in place is key in implementing these enablers, as an organization's culture influences all activities which the organization engages in together with others (Kumar & Banerjee, 2012; Swanson et al., 2016). Fawcett et al. (2008) found five collaboration enablers to be particularly effective in this. These enablers were related to information sharing, management of people, performance measurement, rationalization, management of relationships, and trust. Other activities which have been found to increase collaboration are aligned objectives, relationship-specific dedicated investments, joint relationship efforts, and supplier development (Barratt, 2004; Fawcett et al., 2010, Singh et al., 2017; Simatupang & Sridharan, 2008). As organizational effectiveness differs between firms no universal single best approach exists (Lewin, 1947a). Instead, each organization needs to evaluate its internal and external environment and develop a structure that best reflects the individual situation (ibid.). In order to avoid resources being spent inefficiently, activities which the organization should engage in should preferably be based on the insights gained during the unfreezing stage (Fawcett et al., 2008). Swanson et al. (2016) found that many organizations fail in implementing the right enablers in this phase. As a consequence, many organizations fail to improve their collaboration (ibid.; Fawcett et al., 2008; Villena et al., 2009; Thun, 2010).

3.2.3 Refreezing

The third and final stage Lewin (1947a) referred to as the refreezing stage. At this stage, the organization has achieved the planned change and is stabilizing in a new and altered state (Wong-Mingji, 2013). Kotter (2007) found that managers were often too quick in declaring the change as successful, causing the introduced changes to slowly disappear over time. To anchor the changes in the organization, managers needed to make them ingrained in the organization's norms, policies, practices, or procedures through the corporate culture (Armenakis et al., 2000; Kotter, 2007; Wong-Mingji, 2013). According to Kotter (2007), the importance lies in finding a way to make changes stick even when what originally drove the change has disappeared. Two factors were found particularly useful in achieving this, setting up new performance measurements to track improvement and teaching new managers the importance of keeping the change permanent (ibid.). However, when studying how managers achieved this refreezing in practice Fawcett et al. (2008) found that they feared that refreezing might make them complacent. These managers instead preferred developing the skills needed to enable the organization to continuously improve collaboration in its supply chain. This involved engaging in practices such as periodic environmental scans, developing best practices or benchmarking, and building teams with suppliers which were jointly engaged in problem-solving, engineering, and management.

Lewin's (1947a) belief in group dynamics meant that planned change also has to be a collaborative effort where all parties willingly participate in bringing about change. If not, then changes will not become permanent and the organization risks regressing to its former state (ibid.). However, Fawcett et al. (2008) and Gölgeci and Ponomarov (2015) found that managing the complexity and number of relationships and information flows in a supply chain is often a major barrier to improving collaboration. In a worst-case scenario, this resulted in managers having to put their focus on resolving crises rather than working on developing collaborative relationships (Fawcett et al., 2008). In the study, the researchers concluded that this issue could be solved by rationalizing and simplifying the supply chain (ibid.).

3.3 Summary of the theoretical framework

Managing changes is crucial in moving a supply chain from its current state to become more collaborative (Ali et al., 2017; Ireland & Bruce, 2000; Fawcett, 2008). Fundamental to organizational change is the change approach developed by Lewin (1947a; b) which includes field theory, group dynamics, and the three-step model of planned change. Together these theories and models form an approach to achieving planned change at the group or organizational level. By applying them in their organization, managers can take informed action to reduce resistance to change and implement enablers that encourage collaborative redesigning of their supply chain. The key idea behind the model is that managers have the influence needed to actively plan and execute changes in the organization, given that they manage to proceed through each step (Rosenbaum et al., 2018).

The force field theory is the foundation for Lewin's change approach. According to Lewin (1947a), organizations are affected by forces that inhibit or enable planned change from being implemented. To improve supply chain collaboration, managers must consider any forces which may act for or against successful implementation (Fawcett, 2008). Forces that encourage supply chain collaboration can for example be increased competition or a collaborative culture, while forces that act against collaboration include an organization's structure and culture (Dent & Goldberg, 1999; Kotter, 2007). For planned change to take place the driving forces must outweigh the restricting forces (Lewin, 1947a). To move from the current equilibrium to a more collaborative supply chain, managers must find a way to tip the balance towards collaboration. This can be achieved either by implementing collaboration enablers or by taking initiatives to reduce any restricting forces (Fawcett et al., 2010).

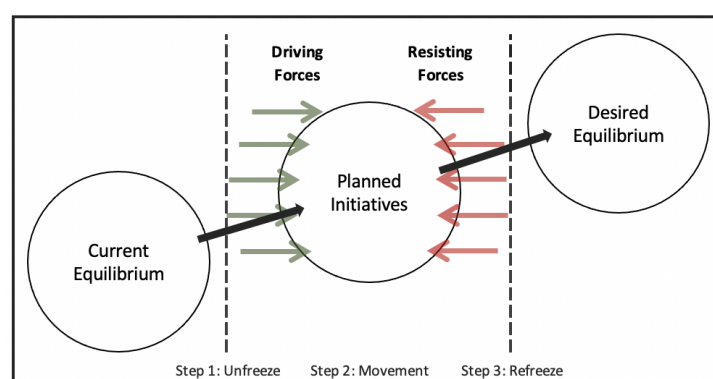


Figure 3: Lewin's change model. Adapted from Fawcett et al. (2012)

Lewin (1947a) believed that successfully implementing planned change involved three sequential steps which he described in his 3-step model of change (Figure 3). Lewin saw the behavior of the group as a crucial part in shaping the individuals therein. As pressures from the

group would cause individuals to conform, changes needed to be focused on a group level. This idea of ‘group dynamics’ is reflected throughout his three-step model, as each step will include the participation of the group of study as a whole (ibid.).

Step 1: unfreezing. Before an organization can start to change, it needs to destabilize or ‘unfreeze’ from the equilibrium state in which it is currently in (Lewin, 1947a). Lewin maintains that this can be achieved in organizations by generating a common acceptance for why a change is necessary (ibid.). Organizations that have identified something in their environment which needs acting upon, such as a crisis or a loss of market share, can thus destabilize by communicating in a manner that convinces a majority of the group that a change is necessary (Kotter, 2007).

Step 2: movement. Lewin (1947a) states that unfreezing in itself is not enough to create change. In the previous stage, the organization accepted that there is an urgent need to change and developed the motivation to improve. In this stage, the organization needs to act on this desire by engaging in activities that are specifically designed to bring about the planned change (ibid.). For managers wishing to increase supply chain collaboration, this stage involves reducing forces that restrict collaboration as well as implementing collaboration enablers such as joint practices or resource sharing (Fawcett et al., 2010).

Step 3: refreezing. Refreezing of the organization is crucial in ensuring that the organization does not regress to its original state. The organization must stabilize in a new equilibrium by ingraining the changes which have been made so far in corporate culture, or they may eventually dwindle with time (Kotter, 2007). This can only be accomplished through the participation of the group as a whole as new norms, policies, practices or procedures will need to be established throughout the organization (Fawcett et al., 2012).

By utilizing Lewin’s planned change approach organizations should theoretically be able to achieve any desired change (Barratt, 2004; Fawcett et al., 2008). However, as the force field theory was designed to fit multiple different situations and groups, it is up to the practitioner to determine what is required within each step of the process (ibid.). This leaves us questioning how the model would be applied in a supply-chain context where managers need to make changes outside of their own organization.

4. Methodology

This chapter aims to introduce and motivate the choice of method that was used in this study. Moreover, the research design, the requirements for the case company, the collection of the empirical data, the data analysis method, the quality of research, as well as a critical approach of the methodology, will be discussed in detail.

4.1 Qualitative research method

There are two methodological options one can choose for doing research studies. The first option is the qualitative research method, and the second option is the quantitative research method (Bell et al., 2019). The latter approach is concerned with explanation, statistical analysis, and hypothesis testing whereas the former aims to understand the chosen research topic as a socially constructed reality that needs to be interpreted with cultural meaning (Eriksson & Kovalainen, 2008). Qualitative research commonly addresses behavior, events, social environments, relationships, and interactions (Ghauri & Grønhaug, 2005).

The choice of method is dependent on the formulated research question (Eriksson & Kovalainen, 2008; Bell et al., 2019). Moreover, the type of research question dictates the method that should be implemented to provide the best possible answer. Research questions that are explorative in nature and depend on the insider's point of view require a qualitative method approach (Ghauri & Grønhaug, 2005). The qualitative approach was the chosen method for this study because the research question of this thesis requires us to study social interactions and relationships between different supply chain actors (ibid.).

In comparison to the quantitative approach, the qualitative approach also offers the benefit of including deviations and emerging relevant factors during the ongoing process (Eriksson & Kovalainen, 2008). It is still possible to adjust research settings, the data collection, or analysis methods once the process has started. Common approaches used in business research are case study research, focus group research, ethnographic research, and critical research, among others. Researchers should choose the approach that best fits the context and topic they want to analyze (ibid.). The chosen approach for this study will be explained in detail in the later sections.

4.2 Research approach

The two most common strategies in qualitative research are the deductive research approach and the inductive research approach (Bryman, 2012; Bell et al., 2019). Both approaches are concerned with the relationship between theory and research. On the one hand, inductive research approaches aim to develop generalizable theories based on particular observations and findings in gathered empirical data (ibid.). Deductive research approaches, on the other hand, have their starting point in existing theory and scholars develop one or multiple research questions to test and/ or expand previous findings (Svensson, 2009; Woiceshyn & Daellenbach, 2018). Moreover, research that seeks to answer ‘how’ or ‘why’ questions should follow a deductive approach according to Yin (2009; 2012) and Brinkmann (2013).

This thesis implements a deductive reasoning approach (Bell et al., 2019; Bryman, 2012; Woiceshyn & Daellenbach 2018). As a starting point, an extensive literature review was conducted within the fields of supply chain management, supply chain collaboration, supply chain resilience and organizational change management revealing the importance of collaboration within these fields. Based on the lack of existing research on how to improve collaboration among partners in global supply chains, we then developed our research question: *How can an organization improve its supply chain collaboration through planned change?*. The research question was the driving force for the choice of the data collection method, as argued by Svensson (2009). Based on the existing literature and the developed research questions, interview questions were developed to fulfill the purpose of this study and answer the introduced research question. Throughout the data collection process, we revised some of the interview questions or introduced additional questions to account for relevant emerging findings. Having a slightly blurred line between deductive and inductive approaches is in line with what Bell et al. (2019), Bryman (2012) and Yin (2009) address in their respective contributions. Collected empirical data was then analyzed in relation to theory and conclusions are drawn. The findings of the study can confirm and expand or deny existing theory and therefore future research implications should be provided (Svensson, 2009).

4.3 Case study

The case study approach is a very common method used in scientific disciplines (Dubois & Gadde, 2002). Especially for organizational, managerial, or other business topics that are difficult to analyze with a quantitative approach (Ghauri & Grønhaug, 2005; Bell et al., 2019; Cassell et al., 2018). It can be defined as “a research strategy which focuses on understanding the dynamics present within a single setting” (Eisenhardt, 1998, p.534). The setting of the case study can be limited to different boundaries, for example, a single organization, a single location, or a single event, which will then be examined in-depth (Bell et al., 2019). In our case study, the boundaries are limited to the case company and its direct supplier network. A case study further allows the researchers to study the chosen topic within its natural context (Awuzie & McDermott, 2017). In this thesis, we investigate how collaboration among supply chain partners can be improved using planned change initiatives. Therefore, it is important to study the relationship between the organizations within its given context, the buyer-supplier relationship. Conducting a case study to achieve this is therefore the most suitable approach (ibid.).

Before collecting empirical data, researchers need to decide whether a single or a multiple case study design is required in order to answer the research question and fulfill the purpose of the study (Bryman, 2012; Bell et al., 2019; Yin, 2009). The chosen design for our case study is a single-case design. The rationale for choosing this design is explained as being a representative case design by Yin (2009) and Bryman (2012). We believe that the chosen setting for the data collection captures the circumstances of the analyzed aspects well and it represents the typical setting for other multinational organizations focusing on supply chain collaboration (ibid.). To strengthen the choice of method, we conducted an embedded single case study (Yin, 2009). According to Yin (2009; 2012), researchers can either conduct a single holistic case study or a single embedded case study. The difference between both approaches is the number of units that are analyzed within the case. The embedded approach has several units of analysis to capture multiple dimensions of the same case (ibid.). As for our case study, interviews with several managers working in different departments within the case company were conducted, namely, the bought-in-finished products department, the raw materials department and the logistics department. These were complemented with two interviews with suppliers to ensure both sides of the relationship are accounted for.

4.4 Case company

As we decided to implement a single case study approach, we developed three criteria the company needs to fulfill to be considered representative, and therefore suitable for this study. The first characteristic it needs to fulfill is a global or multinational operations background. The second criterion is closely related to the first. The company's supply chain also needs to be global in nature. Both criteria are considered important because most supply chains of firms nowadays are globally dispersed, and the supply chain of the case company should represent this setting (Lund et al., 2020). The third and last important requirement for a firm to be suitable for this case study is that it has an ongoing engagement in collaboration with its suppliers. As previously explained, we are investigating if and how enablers can improve the supply chain collaboration among supply chain partners through planned change. Therefore, the case company needs to engage in collaborative activities internally but most importantly with their suppliers.

4.5 Collecting empirical data

Within qualitative research, interviews are the most commonly used method to collect empirical data (Bell et al., 2019; Bryman, 2012; Baumbusch, 2010). In opposition to interviews conducted within quantitative research, the researchers in qualitative research are more flexible in executing the interviews as deviations, adjustments and including emerging factors are still possible after the interview process has started (Eriksson & Kovalainen, 2008). The aim of conducting interviews is to get rich and detailed information about the topic at hand that will help answering the research question (Bell et al., 2019; Baumbusch 2010). To get the most viable information, the researchers need to be able to account for new but potentially highly relevant information that was not considered before and emerged within the interview process (ibid.). Moreover, literature argues that interviewing is the preferred method of choice when studying “[...] the interplay of network relations and business decision-making [...]” (Yeung, 1995, p. 322), and seeking an answer to research questions containing a ‘how’ (Brinkmann, 2013). Based on the above reasoning, interviews are the most appropriate method for collecting empirical data in this study.

4.5.1 Interview and question design

In this thesis data collection was done through semi-structured interviews to ensure flexibility while keeping a factual focus (Botes et al., 2017; Baumbusch, 2010; Bell et al., 2019). Semi-structured interviews are “designed to ascertain subjective responses from persons regarding a particular situation or phenomenon [...]” (McIntosh & Morse, 2015, p. 1) and provide the researchers with a deeper understanding of the phenomenon. This type of interview is especially suitable if the analyzed phenomenon is lacking subjective or practical insights, which reflects the purpose of this study (ibid.).

Although no strict interview guide is necessary for semi-structured interviewing, the researchers should agree upon the design of the interview questions (Bell et al., 2019; Baumbusch, 2010; McIntosh & Morse, 2015). The interview guide can be configured in any way as long as the interview guide covers all relevant topics and provides some structure for the interviewing process. The interview topics do not need to be phrased in the exact same way or asked in the same order in every interview. They only need to be conveyed with the same meaning to all respondents and should follow the logic of the conversation (ibid.).

Every interview started with an open ended ‘introduction question’. Introduction questions, also referred to as guiding questions, are a means to start and lead the conversation towards the actual topic of the interview and give the respondent the possibility to elaborate on his or her background within the topic. Once the background has been established, the questions were increasingly factual focused on driving the conversation into a more in-depth discussion about the topics included in the interview guide. Structural questions were used to guide the conversation through the different topics if needed. Whenever new aspects arose that were not included in the interview guide but seemed relevant for our study, probing questions were used to gain a deeper understanding of the new aspects (Bell et al., 2019). Whilst the core of the interview guide remained the same throughout the study, some parts were developed in order to establish the best possible framework for collecting the empirical data.

4.5.2 Interviews

The conducted interviews are the main source of the empirical data needed for answering the introduced research question (Bell et al., 2019). Due to the ongoing Covid-19 pandemic, all interviews were conducted virtually either via Zoom or Microsoft Teams. All participants joined the virtual meetings individually from home. Tables 1 and 2 below show the schedule

of all interviews that were carried out for this thesis. The language used in all interviews was English and they lasted between 35 and 60 minutes.

Table 1: Interview schedule Essity

Respondent	Position	Department	Location	Date	Type	Duration
A	Global Sourcing Manager	Finished Goods	Sweden	22 nd of December 2020	Online interview (Microsoft Teams)	60 Min
A	Global Sourcing Manager	Finished Goods	Sweden	1 st of February 2021	Online interview (Microsoft Teams)	60 Min
B	Global Sourcing Manager	Finished Goods	Sweden	8 th of February 2021	Online interview (Zoom)	45 Min
C	Global Sourcing Manager	Finished Goods	Sweden	18 th of February 2021	Online interview (Zoom)	40 Min
D	Global Sourcing Manager	Raw Materials	Sweden	10 th of March 2021	Online interview (Zoom)	60 Min
E	Global Sourcing Manager	Raw Materials	Sweden	10 th of March 2021	Online interview (Zoom)	60 Min
F	Supply Manager	Logistics	Sweedden	19 th of March 2021	Online interview (Zoom)	50 Min
G	Global Sourcing Manager	Finished Goods	Germany	22 nd of March 2021	Online interview (Zoom)	40 Min
H	Global Sourcing Manager	Finished Goods	Germany	23 rd of March 2021	Online interview (Zoom)	50 Min
I	Global Sourcing Manager	Raw Materials	US	29 th of March 2021	Online interview (Zoom)	35 Min
A	Global Sourcing Manager	Finished Goods	Sweden	27 th of April 2021	Online interview (Microsoft Teams)	45 Min

Table 2: Interview schedule suppliers

Supplier	Position	Location	Date	Type	Duration
A	Vice President Sales and Administration	Hungary	16 th of March 2021	Online interview (Zoom)	40 Min
B	Global Key accounts Director	Sweden	18 th of March 2021	Online interview (Zoom)	50 Min

Respondent A was interviewed multiple times as this individual was our main contact person at the case firm. Respondent A was also the intermediary between us and all further respondents that were interviewed for this thesis. The interviews were conducted over a period of five months. A longer interview period allowed us to develop a clear and in-depth understanding of each department before moving on to other departments, suppliers, and other international locations. All respondents at Essity hold a managerial position within global sourcing departments except respondent F, who works in the logistics department. He was interviewed to gain a more comprehensive picture of information provided by previous respondents. Both interviewed suppliers are the direct contact person for specific sourcing streams at Essity and therefore provided insights into the relationship from the opposite perspective of the relationship.

4.6 Data analysis method

Analyzing data is a means of finding a path through the collected data to generate an answer to the introduced research question and fulfill the purpose of the study (Bell et al., 2019). The most commonly used method of analyzing qualitative data is coding (ibid; Parameswaran et al., 2020). Coding is the process of reviewing transcripts and attaching labels to parts which seem to be of potential relevance for the study. (Bell et al., 2019). Therefore, it is a suitable method for analyzing the data of semi-structured interviews and will be used for this study (ibid.).

To analyze the empirical data, a coding scheme was developed. Similar to the Gioia approach the collected empirical data was grouped into different categories (Gioia et al., 2010; Yakob, 2018). Three different categories have been identified in relation to the chosen theoretical framework and are determined by the existing literature (Azungah, 2018). Figure 4 displays the categories, which are used to code the empirical data. The first category, which can be compared to Gioia et al. 's (2010) overarching dimensions, represents the three different phases in Lewin's (1947a; b) change model. Each of these phases can further be divided into subcategories that are used to analyze each respective phase more in-depth. Therefore, one could compare the second category to second-order themes (Gioia et al., 2010; Yakob, 2018). Second-order themes are the collapse of related first-order categories into themes that represent all of the categories and are underlying for the overarching dimensions (ibid.). First-order categories, which can be compared to the third category in Figure 4, are sections in the empirical data with coherent meaning that belongs to a generic phenomenon (Yakob, 2018). In this study, the first-order categories are different dimensions within the second-order themes. For example, the second-order theme of joint relationship efforts is a collapse of the three first-order categories joint planning, joint decision-making, and joint problem-solving as all three categories are part of the theme. Joint relationship effort on the other hand is one theme in the overarching dimension movement. The division into the different second-order themes as well as first-order categories will also be implemented in chapter 4 to ensure a good structure and provide the relevant data for each theme. In the analysis, only the overarching dimensions will be used as all second-order themes are interrelated and the joint effect is important. This is consistent with the theoretical framework. Table 3 below presents related quotations from the collected empirical data for each category as supportive evidence.

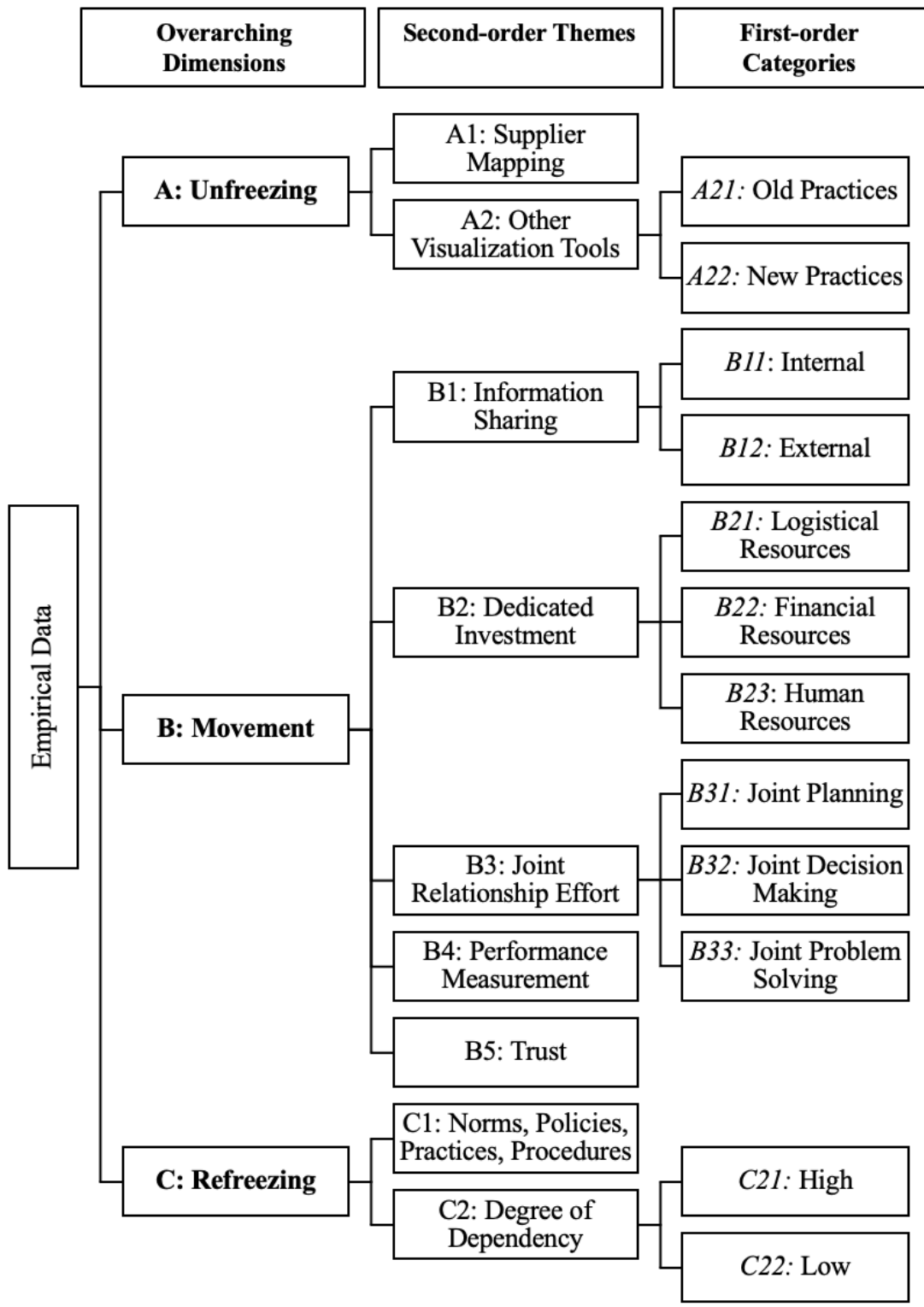


Figure 4: Coding scheme. Adapted from Gioia et al. (2010) and Yakob (2018)

Table 3: Example Quotations

Dimension, Theme and Category	Representative Quotation
Unfreezing A1: Supplier Mapping	<p>“We started supplier segmentation 4 years ago as a way to figure out where our critical suppliers are. This was a concrete way to show which suppliers should be prioritized, a sort of visualization tool.” (Respondent A)</p>
A2: Other visualization tools	<p>“Wherever the coronavirus spread we sent out emails to suppliers asking about their situation, so we got weekly updates from them. Then we enter that into the centralized excel sheets” (Respondent B)</p>
Movement B1: Information sharing <i>B11: Internal</i>	<p>“We had frequent calls among us internally to figure out what we can do and what kind of initiatives we can work with the suppliers to overcome the situation” (Respondent G)</p>
<i>B12: External</i>	<p>“We normally have meetings with all our main suppliers on a monthly basis, which we have extended to biweekly and even weekly meetings to discuss where the problems were” (Respondent F)</p>
Movement B2: Dedicated Investment <i>B21: Logistical Resources</i>	<p><u>Finished Goods:</u> “Essity engaged in some resource sharing. We especially focused on sharing equipment such as instances where a supplier could not get hold of the trucks, they needed to transport their goods “(Respondent A)</p>
<i>B22: Financial Resources</i>	<p><u>Raw Material:</u> “Regarding logistics, taking up Brexit as an example where we truly were struggling to get the transportation companies availability of trucks. We are using multiple firms and transportation firms and then we could use that leverage to help our suppliers to get the availability of trucks.” (Respondent D)</p>
<i>B22: Financial Resources</i>	<p><u>Finished Goods:</u> “Because of the pandemic some products is having low orders and now we are sharing the financial burden of keeping the people on standby” (Supplier A)</p>
<i>B22: Financial Resources</i>	<p><u>Raw Material:</u> “Transportation costs went up quite a lot and some of the suppliers then had to forward all the additional cost for transportation to us. But we said it needs to be fair and also a quite transparent activity” (Respondent E)</p>

Table 3 (continued)

B23: Human Resources

Finished Goods:

“We did however not share any human resources in terms of workers as this was impossible.” (Respondent A)

Raw Material:

“It was typical to move around people to support us because that is something we sometimes need. [...] all that was not possible to do or very restricted to do because of the Covid-19 restrictions.” (Respondent E)

Movement

B3: Joint relationship effort

B31: Joint planning

Finished Goods:

“During the pandemic, we have really been talking about the orders next week and how we need to reprioritize etc. So, I have been much more involved in the operational sourcing than I would normally be, but I think it was needed in this case.” (Respondent C)

Raw Material:

“production planning is also generally done by the sites” (Respondent E)

B32: Joint decision-making

Finished Goods:

“Joint decision-making is on a short-term basis. For example, if it regards the products, we will look at what we and they need” (Respondent A)

Raw Material:

“So, the [suppliers] have to take care of [logistics], but increasing costs is something we, of course, had to discuss with the supplier” (Respondent E)

B33: Joint problem-solving

Finished Goods:

“Corona has mainly been to solve problems together” (Respondent A)

Raw Material:

“Normally we are not involved in the logistic discussions at all. We are involved if there is a disagreement that needs solving, but otherwise this is done by the supplier” (Respondent E)

Table 3 (continued)

<p>Movement B4: Performance Measurement</p>	<p><u>Finished Goods:</u> “We have discussions where we talk through the KPI’s, especially for those softer values” (Respondent C)</p> <p><u>Raw Materials:</u> “I think we're using our own way of assessing how we deal with the suppliers. But of course, all supply streams have a strategy which is anchored and built on the reality and revised minimum once per year.” (Respondent E)</p>
<p>Movement B5: Trust</p>	<p>“[...] suppliers with which we have big trust are also the suppliers where we have a better transparency, a better communication and we can work together in a very good way” (Respondent C)</p>
<p>Refreezing C1: Norms, policies, practices, procedures</p>	<p>“[...] we now have more frequent conversations with each other. This routine is set and is now up and running. We will likely continue with more contact with key suppliers in future.” (Respondent A)</p>
<p>C2: Degree of dependency</p>	<p>“[...] if you want to shift production there has to be a supplier that is willing to invest large sums for something already on the market, so usually when you're engaged in this kind of collaboration it lasts for a long time” (Supplier A)</p>

4.7 Quality of research

Bryman (2012) and Bell et al. (2019) both explain the importance of criteria to establish and assess the quality of the research. The most prominent criteria to evaluate the quality of research studies are reliability and validity. While these concepts are relatively easy to establish in quantitative research, their applicability for qualitative research is heavily discussed among practitioners (Nobel & Smith, 2015; Bell et al., 2019). Both criteria need to be adapted to the qualitative nature of research in order to demonstrate the quality of it (ibid.).

4.7.1 Reliability

The reliability criterion in the qualitative context refers to “(t)he consistency of the analytical procedures, including accounting for personal and research method biases that may have influenced the findings” (Nobel & Smith, 2015, p. 34). Additional to the consistency, the researchers should ensure the stability of the study (Mills et al., 2010). A study is considered stable if the same study can be replicated by an independent researcher at a later point and would yield similar results. Overall, the goal of reliability is to reduce biases and errors in the collection of empirical data to increase the trustworthiness of the study (ibid.).

To ensure the consistency of our study, the same interview guide (see Appendix 1) was used in all the conducted interviews. Using the same interview guide assures the comparability of the collected data and therefore the consistency (Bell et al., 2019). To further strengthen the consistency of our data, we implemented a form of triangulation by collecting data from multiple sources (Mills et al., 2010). We interviewed multiple individuals within one department but also included multiple different departments across the firm and even suppliers to account for both sides of the relationship. Having multiple respondents does not only establish confidence in the collected data but also reduces potential human biases of the data (Nobel & Smith, 2015).

4.7.2 Validity

The validity criterion in the qualitative context refers to the “appropriateness of the tools, processes and data” (Leung, 2015, p. 325). This needs to be evaluated with respect to three different concepts, namely internal validity, external validity, and construct validity (Bryman, 2012; Bell et al., 2019; Andrade, 2018).

The first concept within validity, internal validity, is mainly related to the issue of causality in the study (Bryman, 2012). Since this study was done through semi-structured interviews, a simple causality cannot be established (ibid.). However, it is possible to evaluate the credibility of the research, which parallels the internal validity criterion (Bell et al., 2019). Still, the issue remains that in qualitative research the findings and conclusions are based on the judgment of the researchers and not on objectivity (Andrade, 2018). To increase the internal validity, two techniques can be implemented, namely, triangulation and respondent validation (Bell et al., 2019). As already explained in *4.7.1 Reliability*, our results are based on multiple sources and

multiple units in the case study which is considered as triangulation. Furthermore, we used respondent validation, which refers to seeking corroboration of the empirical findings with the respondents after analyzing the empirical data. The case company read and confirmed the findings, which further increases the internal validity of this study (ibid).

The second concept, external validity, examines if the results of the study are generalizable (Bryman, 2012; Andrade, 2018). Although the results cannot be generalized in the same way as quantitative research results, the findings of case studies provide theoretical generalizations (Tsang, 2014). With case studies, it is possible to explain relationships between different units of the study by accounting for context-specific settings, for instance, culture, that cannot be explained through quantitative research methods. This is notably important for managerial advice because here the context does really matter (ibid.). External validity can further be evaluated through the transferability of the case study (Bell et al., 2019). The transferability of the study can be ensured with a thick description of the case study settings, methods, and especially the limitations. Providing a rich and detailed description allows other researchers to understand the specifics of the case and increases their judgment to possibly transfer the findings to other areas (ibid.). In *1.5 Delimitations*, we provide the clear boundaries of our study and within this chapter (4 Methodology) we explain in detail how this study was designed and conducted. To further increase the transferability of our results, the case selected for this study fulfills the criteria of being a representative case study, which is explained in more detail in *4.4 Case Company*.

The last concept, construct validity, explores if the study properly covers what it was intended for (Salkind, 2010). The higher the construct validity the more confidence other researchers can have in the results of the study (ibid.). If the study represents a low construct validity, the results of the study may be ambiguous (Bagozzi et al., 1991). To ensure the last concept of validity in our study, we implemented an embedded case study, which was already explained in detail in *4.3 Case Study*.

4.7.3 Ethical considerations

This study raises mainly two ethical concerns that need to be handled. Namely, informed consent and data management (Bell et al., 2019). The former concern refers to providing sufficient information to all respondents beforehand so that they can freely choose to participate or not. All respondents included in our study were informed about the aim of the interview and

provided with a list of topics that will be discussed during the interview. All voluntarily agreed to participate in our study. Since the interviews were conducted online, we asked permission from all respondents before recording the interview sessions. The concerns in relation to data management refer to the storing and accessibility of the digital recordings. We the authors ensured that only we had access to the recordings and the respective respondent if they expressed the wish (ibid.).

4.8 Critical approach of the chosen methodology

Adopting qualitative semi-structured interviewing as a method to collect empirical data for conducting a case study has a number of limitations that will be highlighted in the following. First of all, answers respondents give might be subject to subconscious biases (Alshenqeeti, 2014). Replies can be biased if the respondents either only recently joined the company or recently claimed the position they are holding. A second risk emerging in interviews is that respondents might be influenced by the questions and the given answers might be distant from the actual extent (ibid.). To reduce the risk of biased empirical results, 13 interviews were conducted with respondents holding different positions and working in multiple countries. Therefore, this risk can be deemed as low. Although interviews offer the possibility to interact with respondents and observe their behavior during the interview process, all interviews in this study had to be conducted online due to the ongoing Covid-19 pandemic. To ensure the data is understood properly and to minimize the risk of misplacing information, all interviews have been recorded and transcribed. A third risk in qualitative research is the researchers' own bias in analyzing and interpreting the collected data (Azungah, 2018). To minimize the incidence of bias, we had a discussion after every interview and the empirical results have been confirmed by the case company. The last limitation of this methodology is the chosen respondents. All respondents that were interviewed for this study were handed to us. We were able to choose the departments, but not the respondents or countries they work in. This might have an influence on the empirical data; however, the risk is determined as low as well.

5. Empirical data

In this chapter, the empirical data gathered in this study will be presented. This data will later serve as the basis for the empirical analysis. The chapter is divided into five sections. The first is a presentation of some background information regarding the case company, the two suppliers interviewed in this thesis as well as the impact that the Covid-19 pandemic had on the case company's supply chain. Thereafter follow three chapters which are structured according to the sequential three-step model proposed by Lewin. In each of these three chapters, relevant data gathered from the case company and the two suppliers will be presented. The chapter then ends with a summary of the empirical findings.

5.1 Background

This section gives a brief background that is meant to expand the reader's understanding of the organizations and events described by the respondents. The section contains an overview of the case company, the two suppliers who have been interviewed in this study and describes the circumstances for these parties during the Covid-19 pandemic.

5.1.1 The case company

Essity is one of the world's biggest suppliers of personal care, consumer tissues, and professional hygiene goods (Essity, 2021a). The company's product offerings are either produced in-house or finished goods are resold. The company operates in around 150 countries worldwide and has suppliers in more than 30 countries. As of 2020, around 60% of the company's strategic suppliers were located in Europe, 32% in America, and the remaining 8% in Asia and Africa. According to Essity, this focus on European suppliers is a strategic choice made to minimize the value chains' exposure to social and ethical risks (ibid.). The company requires that all suppliers operate according to their supplier standard and that this standard is communicated to their sub-suppliers (Essity, 2018). Upon request, these suppliers should supply Essity with information regarding any other actors involved in the production of goods that they supply to Essity (ibid.).

Essity is structured in four different business units, namely professional hygiene, consumer goods, health and medical solutions, and one unit called 'Latin America' (Essity, 2021b). The company also has three globally spanning units that manage global manufacturing, global brand, innovation and sustainability, and global operational services (ibid.). Risk management

within Essity follows the company's overall delegation scheme from the Board of Directors to the President and then to each business unit (Essity, 2021a). In practice, this means that risks are primarily managed by the business units and then reported backwards in the chain. While financial risks are managed at a central unit located in Stockholm, Sweden, operational and supply chain risks or disruptions are managed primarily by the different global sourcing managers at each unit. These global sourcing managers are responsible for different supply streams which divide up the company's suppliers (ibid.).

5.1.2 The suppliers

Two of the case company's suppliers were interviewed in this thesis. The first company, Supplier A, has around 7000 employees located in Europe, North America, and Asia. The company supplies finished goods for Essity's professional hygiene unit and has been doing so for many years. The respondent from Supplier A is the vice president for sales and administration in Hungary which focuses on personal hygiene and medical supplies.

Supplier B is a company with around 3,500 employees with production facilities in Europe, the UK, and Asia. This company also supplies finished goods for Essity's professional hygiene unit and has been doing so for a number of decades. The respondent speaking for Supplier B is a global key accounts manager for the company.

5.1.3 Covid-19 impact on the case company's supply chain

During the Covid-19 pandemic, many of Essity's product streams were impacted by disruptions which caused the company to adapt their sourcing practices, production of goods as well as transport of goods and raw materials. One global sourcing manager at the company described the situation as being uniquely complex as demand for goods such as hand hygiene products and sanitizers increased drastically. However, as a result of the pandemic, there was a global supply shortage of raw materials and components. As a consequence of the shortage, lead times for the products increased tremendously, making it difficult for the company to keep up with the growing demand. On top of this, border closures resulted in delays in transportation which depleted stock levels. The respondent further stated that Essity's products were prioritized by the government in some countries as they were counted as essential products. Therefore, Essity did not experience any demand issues for these particular products, but there was *"a lot of effort involved in keeping operations running"*. Similar responses were given by all

respondents, with some variations in the severity of impact on their supplier's dependent on the supplier's size, location, and the goods which they produced (ibid.).

From the suppliers' point of view, this created a challenge. Both of the two suppliers spoken to in this thesis stated that while Covid-19 had a negative impact on their production, they faced relatively minor disturbances compared to what many other industries suffered. Instead, they stated that the biggest challenge was to maintain and increase the capacity for the products they supply as Essity was selling more than predicted. Furthermore, as there was pressure on suppliers of hygiene goods to start to increase their production and produce more rapidly many competing suppliers were stockpiling raw materials. One global sourcing manager described how some suppliers were unable to get a hold of non-woven fabric which they needed in their production as the material was repurposed for face masks. Thereby creating a huge price increase for the raw material.

5.2 Unfreezing

Four years ago, Essity started developing an internal tool that was meant to guide the company in developing better relationships with their suppliers. The tool segmented the organization's suppliers, dependent on their relative importance to the company. This categorization would clearly visualize the role that each supplier has in the supply chain, enabling Essity to develop tailor-made strategies for how to manage different relationships depending on which category a supplier belonged to. In this manner, the tool was expected to help Essity develop more effective relationship management and thus an improved level of collaboration within strategically important segments. But while there were some pilot projects to test the tool on different supply streams, it was never implemented at full scale. According to Respondent E, this was in part because of the sourcing structure of the company. At Essity suppliers are divided into different product streams such as bought in finished goods and raw materials. Suppliers may however be included in multiple streams at the same time and have different degrees of importance in each stream, making it difficult for a tool like this to be implemented. In practice, Essity thus manages suppliers depending on the product line they belong to.

Every quarter, Essity holds what is internally referred to as 'business review meetings' to evaluate the status and relationship of their suppliers. Prior to the meetings, Essity gathers information from the suppliers to get a comprehensive understanding of their current situation

and potential risks which they foresee. Any potential changes which need to be made as a result of these discoveries will be discussed with the supplier who then has the responsibility to determine what strategy they want to use to rectify the issue. Any concerns which relate to Essity's internal strategies will be discussed cross-functionally together with relevant departments in order to develop an appropriate strategy. Complementary to the annual business review meeting, monthly meetings with strategically more important suppliers may also take place. The additional meetings are dedicated to specific topics, such as the monthly logistics review meeting or monthly meetings to follow up on delivery percentages. According to Respondent A, these meetings are mainly used to identify and discuss any risks impacting supplies.

As a result of the disruptions caused by the Covid-19 pandemic, Essity found that the practices which were already in place in the organization needed to be complemented with other tools. As Respondent E summarized, *“when you have a crisis like that you cannot rely on normal standard procedures because conditions change all the time”*. To quickly share information between different departments and individuals one person in the company created a shared Excel sheet that contained the location of each newly identified risk and which suppliers may be impacted by it. Wherever the Covid-19 virus spread, the respondent sent out weekly emails to each supplier requesting information regarding how they had been affected. Each global sourcing manager was responsible for continuously updating this Excel sheet and adding their suppliers to the list when needed. The reasoning behind all sourcing departments using the same shared file was to ensure that everyone had the same picture of the risk. As the file marked out any suppliers in critical areas it was also used to help make a prioritization of which areas to act upon first.

The rapidly changing pattern of risks also required Essity to increase their frequency of meetings with the suppliers. At the beginning of 2020, the department sourcing finished goods were having meetings or calls with suppliers as often as every week. One respondent even saw that contact increased to every second day with the suppliers located in areas that were hit particularly hard by Covid-19 and related closures of factories. Around once per week, the respondents went through all the products which they source and identified where disruptions had occurred and where to target their efforts. This required a high level of willingness to share information from both Essity's and the supplier's sides. For example, at Supplier A's factories, they faced difficulties in gaining access to the resources they needed to produce according to plans. The representative described how they made a number of forecasts based on how

severely their production may be affected by the pandemic. One such forecast showed potentially severe disruptions to their productions should more than 25% of their labor force get corona or have to quarantine. Such forecasts would be shared with Essity to coordinate a mitigation strategy. Both suppliers A and B stated that they were willing to engage in any activity together with Essity if this would help stabilize the supply stream as doing so would be beneficial for not just Essity but also for themselves. Like Essity, the suppliers believed that because the Covid-19 pandemic hit everyone hard they were all “*in the same boat*” and needed to work together to mitigate any disruptions as efficiently as possible.

5.3 Movement

Essity understands that in times of disruption it is not enough to just proceed with the normal ways of working. In order to be able to handle the difficulties, the company adjusts their processes and ways of collaborating with their suppliers. The collaboration enablers discussed by the respondents and treated here, in turn, involve information sharing, dedicated investments, joint relationship efforts, performance measurement, and trust.

5.3.1 Information sharing

All respondents identified information sharing as a key activity in building collaborative relationships. This applied both on a normal basis as well as during times of disruption such as during the Covid-19 pandemic or for example Brexit. During disruptions, potential risks, demand changes, or changes in production plans need to be communicated between all affected parties. Essity shared information internally between different departments as well as externally either via email, phone, or Zoom and Microsoft Teams. This was described as needed to ensure that goods and products are not being disturbed and the flow remains normal. In the following two sections a detailed overview will be given of internal and external information sharing between Essity and their suppliers.

5.3.1.1 Internal information sharing

Cross-functional information sharing at Essity normally takes place once every month. Topics discussed in those meetings include sales and order planning, product capacities, upcoming

projects, audits, and some supply streams logistical data. The focus thereby is on mid-to-long-term planning as well as risk mitigation.

As a result of the Covid-19 pandemic, cross-functional communication and information sharing within Essity increased. Not only between different supply streams and the respective sourcing managers but also with other departments such as logistics, marketing, and sales. Frequent cross-functional meetings were necessary to identify potential disruptions, customer needs, and stock levels in order to make demand forecasts for the upcoming week. Essity used these meetings to gain an understanding of the current situation and to stabilize their supply streams to the extent possible. If one meeting per week was not sufficient to cope with the challenges, additional meetings were set up. This commonly occurred when there were issues with logistics as frequent updates of information were needed to avoid delays. Cross-functional information sharing also increased when disruptions caused a need for Essity to approve and qualify a new supplier.

5.3.1.2 External information sharing

Meetings between Essity and their suppliers normally take place once a month. Demand forecasts and sales forecasts along with further strategic information to align logistics and potential investments are shared annually in quarter four for the upcoming year. However, as a result of the Covid-19 pandemic and Britain leaving the European Union the normal way of working and sharing of information changed. During these disruptions' engagement increased between Essity and their suppliers, causing the frequency of meetings and the amount of information shared to increase drastically. The company stated that frequent contact was needed to *“make sure that we [Essity] do not get any unexpected surprises”* (Respondent G). For Essity, it was important to get and understand the current status of the different sites and take immediate precautions to reduce the impact of any occurring disruption. From the supplier perspective, the increased number of meetings was necessary in order to get updated demands and forecasts or logistical information for their production planning. The increased contact was believed to be absolutely crucial as the situation in one week could look completely different in the following week. Because this way of working was described as very efficient by Essity, a higher frequency of communication with suppliers than before the crisis will remain even after the crisis.

5.3.2 Dedicated investment: resource sharing

Essity and their suppliers have comprehensive agreements in place which clearly define each party's responsibility in the relationship. The first example given by the company was existing logistical contracts. For finished products, Essity has the responsibility of collecting the goods at the supplier sites and transporting it to their warehouses. For raw materials, on the other hand, the responsibility relies upon Essity's suppliers. The second example is financial contracts that also clearly define which part of the costs is covered by whom. Although the agreements differ between the two product groups and departments, they overall make resource sharing between Essity and their suppliers redundant. Sharing human resources within the raw material supply streams represents the only exception in this scenario. The sourcing managers of raw materials explained that for a smooth production it sometimes is necessary to get help from experts in adjusting the settings of machines. Therefore, they have to engage in the exchange of human resources occasionally.

However, all respondents reported that the disruptions during 2020 made it necessary to have some flexibility in these agreements. The existing contracts are not sufficient in coping with difficulties caused by the crisis. As respondent A depicted "*Responsibility doesn't really matter in this instance. We had to help each other to get the goods flowing*". All respondents and the two suppliers highlighted that transportation of goods and material was affected the most. Both Essity and the suppliers understood the importance of developing alternative ways of transportation in order to ensure the flow of supplies. This could either mean providing each other access to one's own transportation system, if available, or finding third-party transportation opportunities. Increasing costs for transportation was another ramification of using alternative logistics. Due to transparency and fairness between Essity and their suppliers, these costs were then shared between both parties. According to Essity, engaging in resource sharing had a positive impact on for example volume planning, product prioritization, and decision-making, thus joint relationship efforts, but once the crisis is overcome, the contracts will be valid again.

5.3.3 Joint relationship effort

Essity and their suppliers operate according to standard procedures. Somewhat simplified this flow includes sending out demand forecasts and purchase orders for the phase production, waiting for the suppliers' acknowledgment, and then receiving the goods in the warehouse or production facility at the agreed lead time. Suppliers are the ones which are responsible for

obtaining the raw materials, planning production, and producing the goods and Essity rarely engages in this process. However, the disruptions following the Covid-19 crisis necessitated more joint approaches including joint planning, joint decision-making, and joint problem-solving, all of which will be presented in turn below.

5.3.3.1 Joint planning and joint decision-making

Essity engages in both joint planning and decision-making with their supplier in the short term. Joint decision-making involved, inter alia, the capacity, the incoming material, and adjusted volumes. An example given by Supplier A was to jointly decide if only two instead of four production lines should be running or if the line should be stopped based on economic calculations for the changing demand. The more years of experience both parties have with each other, the quicker decision can be made. Much of the joint decision-making occurs when Essity is planning production together with the suppliers. Joint planning is most commonly done with strategically important suppliers but also happens with suppliers that encounter problems in their production or deliveries which concern Essity.

Albeit all global sourcing managers at Essity talked about engaging in joint planning with their suppliers, the intensity of involvement differed depending on the product group. Essity was strongly involved in planning activities with their suppliers when these produced finished goods. The company stated that they sometimes help suppliers decide which products should be favored in the production depending on the customer demand and what the factories needed in order to make profits. The planning also involved deciding upon volumes and production times acceptable for both parties. During the Covid-19 disruption, these issues were discussed in the weekly meetings and planning was on a short-term basis. Normally it is up to each supplier to decide upon their own production procedures as well as when and how they get their materials. However, Supplier B explained that Essity has to be involved in their production volume planning during times of disruption because forecasts can suddenly change. In some instances, the suppliers also actively asked for Essity's support. For example, Essity on occasion helped their suppliers find raw materials needed for their production to enable them to produce goods for them in time and avoid backorders. This could be achieved by individuals at Essity contacting tier 2 or even tier 3 suppliers to gain information about the availability of raw materials, which was then shared with their direct suppliers.

The joint planning activities in the raw materials department were less extensive than for the department sourcing finished goods. While they also discuss the production volumes and future orders based on a short time period, they were not actively helping suppliers to find available materials. In many cases this department operates under dual sourcing, meaning that if one supplier was unable to produce then a second supplier could cover the lack of materials. The Respondents further elucidated that areas in which they are dependent on their suppliers are normally the areas in which they strategically plan together. However, once the crisis recedes both supply streams of the company will pick up the normal ways of working again.

5.3.3.2 Joint problem-solving

Joint problem-solving, as well as joint planning and joint decision-making, are heavily dependent on information sharing and communication between Essity and their suppliers. Arising problems can only be identified if the two parties exchange information and discuss the ongoing situation regularly. It was further explained that solving problems is in everyone's interest because otherwise, the supply chain might face disturbances. It is therefore necessary to manage problems together. Achieving the best possible result was stated as the main goal for both parties, given the circumstances of a disruption. Potential problems or disruptions with a supplier are discussed as soon as possible to develop mitigation strategies. The weekly meetings, or otherwise the monthly meetings, were highlighted as a good opportunity to raise potential concerns. This does not only involve problems caused by situations like the current Covid-19 pandemic but also in everyday business life. Supplier B shared this view by exemplifying that whenever a quality problem with one of their products arises, resolving measures are started immediately. Another example given by Essity to highlight the importance of joint problem-solving was disagreements between their supplier and the logistics contractor. Although Essity is not responsible for the transportation of the material, they step in and try to resolve the matter because otherwise their own production can be negatively affected. Respondent A summarized joint relationship efforts by giving the following statement.

“You can say that [joint relationship efforts] are a cycle. We will not engage in for example problem solving if there is no need for it. But if there is a reason, we will of course do so. The ways of working which you develop in times like now during the Covid-19 pandemic can then also be used in the future.”

5.3.4 Performance measurement

Essity uses performance measurement in order to get a common overview of their suppliers and the relationships that they have with each other. Both the bought-in-finished-goods as well as raw material departments use what they describe as scorecards to evaluate the performance of their suppliers. While the main purpose of the scorecards is to evaluate performance related to the supplier's production, they also account for 'softer' skills such as responsiveness, communication, collaboration, and service level which still are quantifiable. The suppliers' scores in these categories are benchmarked against set KPI's in order to determine their performance.

The scorecards are not a company-wide implemented tool, and each product line will have their own strategies in evaluating their suppliers. The bought-in-finished goods departments use a cross-functional approach. While each sourcing manager performs the evaluation for their respective supply stream the results are discussed cross-functionally in order to deal with any potential problems that they might face with certain suppliers. In the raw material departments, each sourcing manager is also responsible for evaluating their own supply stream but combining the evaluations is more difficult as some suppliers are part of multiple supply streams. Merging the evaluations could give the wrong impression as a supplier that appears in two or three supply streams could suddenly appear as a very important strategic supplier although it only accounts for a very little proportion in the respective streams. Unless a specific issue has been identified which needs rectifying, the suppliers may not take part in their evaluation result.

5.3.5 Trust

According to all respondents, having a high degree of trust with suppliers is a key aspect in strengthening supply chain collaboration for a number of reasons. First, Essity believes that the willingness to share information with each other is higher if the relationship is pronounced with trust. Communication with a trusted supplier was also believed to be better and more transparent which had a positive effect on joint relationship efforts such as joint planning, decision-making, and problem-solving. Secondly, trust was believed to support and facilitate dedicated investments, such as sharing logistical or financial resources. Low levels of trust on the other hand resulted in less collaboration and were believed to be the result of supplier's low willingness to collaborate, low responsiveness, and poor or no joint approaches. Low levels of trust were most commonly seen in transactional suppliers.

Essity described working together with suppliers that are reliable and therefore trusted as ‘more natural’. The respondents argued that trust was especially helpful during the last year because it made both Essity and the suppliers feel like they could rely on each other, despite emerging challenges and disruptions along the supply chain. The respondents at Essity uniformly agreed that the increased level of contact they had with their suppliers during the Covid-19 pandemic had an impact on the level of trust between them. While it caused the trust to strengthen between Essity and their more important suppliers, for other partners with whom they already had a lower level of trust it further decreased.

Trust is not only based on current events but also a result of past behavior in the relationship. Trust was to a large extent believed to be based on feelings between individuals and the closeness of their relationship. Supplier A clearly pointed out and summarized trust-building with the following statement: *“Gaining trust is gaining the trust of people”*. As an example, the supplier described a theoretical situation where a customer frequently had internal job rotations. As the contact person would change every two years it would not be possible to establish and maintain a long-term relationship and with each new contact person trust would have to be built from scratch. A long-term commitment was therefore believed necessary for trust to develop. If the supplier delivered what was agreed upon, kept lead times, and if products were according to the quality standards, then they were perceived as reliable and therefore trustworthy. From the supplier's point of view, being supportive, helpful, and following up on events were also cited as important criteria in building trust over time. Sharing strategically important information, engaging in joint developments, and being key to each other's success allows buyers and suppliers to learn about each other. This establishes transparency and the confidence that both will act in the best interest of the relationship.

5.3.7 Summary of Movement

Essity believes that *“frequent communication is key for success”* in a situation in which the company faces disruptions in the supply chain. Therefore, the company increased their internal cross-functional communication as well as external communication and information sharing. According to Respondent C *“[they] learned how to collaborate in a better way together and that [they] have continued to do”*. This is important because the company also believes that *“the most important thing during the Covid-19 pandemic was also to share information among all parties involved”*.

The mere increase in sharing information is however not enough in order to manage the consequences of disruptions. What is normally regulated by comprehensive agreements now requires further action. To keep the goods and materials flowing despite rising challenges, the company and their suppliers make dedicated investments in the form of sharing logistical resources or increased costs. Both have a high willingness to share their resources to maintain a smooth flow of the supply chain if needed. The longer the relationship and the more trust between both exist, the better-dedicated investments proceed because responsibilities should not matter under these circumstances.

Moreover, Essity pursues a joint approach with strategically important suppliers. The company stated that they will only engage in joint practices *“if there is a need for them to engage”* because otherwise set contracts regulate the business operations. But if there is a reason, such as the Covid-19 pandemic, they are willing to work jointly. Joint practices involve joint planning, joint decision-making, and joint problem-solving, which were described as being interdependent. This means that Essity’s involvement in for example joint planning also means being involved in joint decision-making and joint problem-solving. However, the extent of involvement differs between Essity’s finished goods and raw material supply streams. The sourcing department of finished goods is more involved with their suppliers than the raw material streams because they are more dependent on them.

To gain a comprehensive understanding of their suppliers, Essity conducts regular performance measurements including a yearly risk assessment and an evaluation of KPIs, such as delivery rates, financial stability, and responsiveness. This procedure is mainly an internal practice to evaluate existing relationships and identify potential risk areas. If the performance review reveals possible challenges or Essity is not satisfied with the current relationship status, the company will share the necessary information with affected suppliers and corrective action measures will be initiated. Both supply streams have their own approach to measuring the performance of suppliers because different relationship characteristics are important in each product group and therefore different KPIs are essential.

All of the above-mentioned activities are dependent on the level of trust that exists between Essity and their suppliers. As Respondent C summarized *“[...] suppliers with which we have great trust are also the suppliers with whom we have better transparency, better communication and a very good way of working together”*. Although, Essity also believes that it is not reasonable to build up a close relationship and trust with everyone. Furthermore, the

company does not follow a specific strategy to increase trust but believes trust develops naturally the more they work together. Purely transactional suppliers are kept at an arm's length distance because they are strategically not important to Essity's success.

5.4 Refreezing

According to Respondent B, the business review meetings and the vendor logistics review meetings are both tools that the organization uses to continuously evaluate supplier performance. Each of these tools are permanent practices in the organization which helps the global sourcing managers get a feeling about how close they are to the supplier. Respondent G emphasized the annual risk review as being especially useful as it *"gives us [at Essity] a feeling of where we are standing from the supplier's viewpoint if we are a good customer or just one amongst many"*. One way in which Essity ensures functioning relationships with their suppliers is by having KPIs in place which help the company evaluate their business relationships. These measures are reviewed on a quarterly basis during the business review meetings and include variables such as response rate and project performance. The meetings are held together with the relevant supplier in order to ensure that both parties have a common view of their relationship and performance. Essity does, however, not evaluate the relationship on more subjective criteria such as trust. Respondent A stated that including a trust based KPI might be possible in the future, although its innate subjectivity might make it difficult to measure.

Furthermore, a number of respondents stated that they would want the activities which Essity and their suppliers partook in to jointly mitigate disruptions during the Covid-19 pandemic to become permanent practices in the organization. Respondent G saw that the willingness to collaborate and invest time in keeping each other aligned and informed increased during this period. Even when many of the disruptions which occurred at the beginning of 2020 had been mitigated. The respondent, thus, wished to keep any activities that enable this higher level of collaboration even after the Covid-19 pandemic. The respondents also put emphasis on the importance of keeping more frequent calls with the suppliers as this way of communicating leads to quicker problem-solving and a higher level of trust. Respondent A believed that in the future Essity might change from quarterly to annual business review meetings and complement these with monthly update meetings with the suppliers. This more intense contact would present an opportunity to discuss topics more frequently and act quicker. Having the ability to

act on a shorter time frame was believed to be beneficial not just during a crisis but also in more stable environments.

Internal cross-departmental collaboration was also highlighted as an important activity to keep as it was found to lead to quicker action and more accurately developed mitigation strategies.

I would like to see more [cross-functional collaboration or planning] before a crisis occurs.

If we would have had some of this done before we could have gone back to the plan and decided if it needs to be executed or not. Instead of just trying to put out the fire.

(Respondent I)

From the supplier's point of view, an increased level of contact between them and Essity was considered to be beneficial, especially when information sharing was concerned. Supplier B argued that not having access to the information which they need may cause misunderstandings and actions based on instinct rather than facts. Therefore, the respondent believed that they would keep sharing information with Essity regarding any future disruption so as to give them the ability to plan and react. This transparency in sharing information in combination with the ability to work jointly to solve issues was believed to be the reason why the supplier felt like their relationship with Essity had gone from supplier to a partnership relation over time. Supplier A also claimed to have a good relationship with Essity. The supplier held Essity in high regard and stated that they are always willing to work together with them to solve issues and increase efficiency.

Even if both suppliers and the respondents at Essity valued collaboration highly, having collaborative relationships with all suppliers was not seen as a feasible option. Rather the focus was put on key suppliers as well as suppliers which have shown themselves to be willing to work on improving the relationship. Respondent G described that Essity takes one of three courses of action if a relationship with a supplier was not functioning as desired. The first option is always to try to maintain and work on the relationship as well as improve any areas of concern. Only if the supplier has shown to be unwilling to improve and the risks associated with them are "*so severe that we cannot overcome the situation in the long term*" will the second and third options be considered. The option that is selected depends at large on the availability of the product which the supplier manufactures. If a product is available on the market, then the option is to transfer the business to another supplier. However, if a product is from a single source and so special that no other supplier is capable of producing it, then the final option is to discontinue the sales of this specific product.

Supplier B produces a product for Essity for which there are other similar alternatives available on the market. The supplier has been doing business with Essity for more than two decades and did not feel that there was any risk of this relationship ending as they have a strong relationship and have collaborated well in the past. However, the respondent stated that Essity would be able to find an alternative if a supplier like them would not perform as expected or agreed upon. The respondent thus argues that prioritizing the relationship by performing well, being supportive, and delivering what has been promised was important for doing business together in the long term. This view on collaboration was also held by a number of individuals at Essity concerning their own importance for the supplier. Respondent C described that it might not be feasible to develop a close collaboration in instances where Essity buys a small volume from a supplier as they are not considered important enough. The respondent found that there is a different level of support, attention, and trust with this kind of supplier. As a consequence, the respondent found that Essity faces a bigger challenge in reaching the same level of collaboration that the company has with suppliers from whom they source much larger volumes.

From supplier A's point of view, the product which they produce for Essity was more difficult to replace. The respondent stated that *"there is of course always an option to move it to someone else"* however this was believed to be a really costly process since the product which they produce is rather unique. To set up production elsewhere with a different supplier would take years and require multiple different certifications. Thus, the supplier argued that in these instances moving production away from them would require finding another supplier which is not only willing to invest heavily in the endeavor but is also willing to invest in developing something which is already on the market. As a consequence, the respondent argued *"when you're engaged into this kind of collaboration they last for a very long time"*. This view was also held by a number of individuals at Essity who found that it is easier to develop and maintain collaborative relationships with strategically important suppliers.

5.5 Summary of the empirical findings

Table 4 depicted below presents a summary of the main empirical findings introduced in this chapter. Each row corresponds to one section of the empirical data and holds the same title as its corresponding section.

Table 4: Summary of empirical data

Title	Essity	Supplier
Step 1: Unfreezing	<p><u>Supplier mapping:</u> A tool was developed but never deployed.</p> <p><u>Permanent practices:</u> Quarterly business review meetings, logistic review meetings.</p> <p><u>New practices:</u> Weekly meetings with suppliers, internal shared excel file</p>	<p><u>Supplier mapping:</u> Not included in the development of the model.</p> <p><u>Permanent practices:</u> Partakes in quarterly meetings and others when needed.</p> <p><u>New practices:</u> Weekly meetings, frequent sharing of forecasts and risks.</p>
Step 2: Information sharing	<p><u>Internal:</u> Cross-functional communication and information sharing increased to weekly meetings (or more if necessary).</p> <p><u>External:</u> Meetings every week (or more if necessary). Frequency and amount of information shared increased.</p>	<p><u>Internal:</u> Increased cross-functional sharing of information and communication.</p> <p><u>External:</u> Meetings with Essity at least once per week (or more if necessary). More information than usual is shared, e.g., inbound logistics of raw materials.</p>
Step 2: Dedicated investment (Resource sharing)	<p>Differs between product groups:</p> <p><u>Finished goods:</u> High level of dedicated investments such as logistics, e.g., finding alternative transit opportunities and sharing of higher costs</p> <p><u>Raw Materials:</u> Sharing of logistical resources and higher costs; under normal circumstance sharing of human resources possible</p>	<p>Suppliers made a dedicated investment in terms of sharing logistical and financial resources to secure a smooth supply chain (to the extent possible) and fairly sharing increasing costs, e.g., increased transportation costs</p>

Table 4 (Continued)

Title	Essity	Supplier
Step 2: Joint relationship effort	Differs between product groups: <u>Finished goods:</u> High involvement in joint planning, decision-making and problem solving with suppliers, including planning production volumes and finding the raw materials. <u>Raw materials:</u> Involved to some extent in all three activities with their suppliers; however, if possible, reliance on second/ alternative supplier	Engaged in joint planning and joint decision-making with Essity. This includes production volumes and getting help with finding necessary input material (finished good supply streams). Arising problems are solved jointly.
Step 2: Performance measurement	<u>Internal</u> Used to gain an understanding of suppliers, potential risks, their performance, and the status of the relationship. finished good departments perform cross-functional evaluation, raw material departments separately <u>External</u> Extracts are shared with affected suppliers to improve relationship.	Provide all the requested information to Essity and actively participate in meetings (if necessary). If needed: development of a corrective action plan to maintain a good relationship.
Step 2: Trust	Trust will develop with strategically important suppliers that are key to Essity's success through working together over time. Key indicators are past behavior in relationship and transparency.	Trust will develop with important customers through good relationships over time.
Step 3: Refreezing	To ensure that collaboration continues to improve Essity has 'business review meetings' where supplier performance-related KPIs are reviewed. There is also a desire to add new practices to these related to increased information sharing. However, long-term collaboration is mainly desired with key suppliers.	The interviewed suppliers believed that they would continue collaborating with Essity as they have done previously. However, collaborative relationships seem to be more common with strategically important suppliers while less important suppliers face a risk of replacement.

6. Analysis

In this chapter, the theoretical framework will be used to analyze the empirical findings which were previously presented. The chapter follows the same structure as the empirical data chapter and is divided into the same three sections based on Lewin's three-step model of planned change. The first section concerns the unfreezing stage, the second section the movement stage, and the final section concerns the refreezing stage.

6.1 Unfreezing, visualizing the need for change

As argued by researchers such as Doung and Chong (2020) and Scholten and Schilder (2015) collaboration is a crucial factor in dealing with supply chain disruptions. But to improve collaboration, organizations need to implement strategic changes in the supply chain. As argued by Lewin (1947a; b) the first step of this process is to unfreeze the organization by visualizing the need for change. Previous studies, such as those made by Lund et al. (2020), Barroso et al., (2011), and Christopher and Peck (2004), found that mapping out the supply chain is a useful tool for visualizing areas in need of improvement. By mapping out the supply chain, organizations can identify any vulnerable points in the chain and ensure that this information is available and understood by all relevant parties (ibid.). The supplier mapping depicted by these researchers seems to describe the risk management tool which was developed by the case company four years prior to this study. As described by the case company, the tool would map out and segment suppliers in different categories to support the company in building better relationships. According to theory, this could have been a useful tool for visualizing risks, thereby demonstrating the need for increased supply chain collaboration in mitigating risks (Ali et al., 2017; Lund et al., 2020; Christopher & Peck, 2004). But despite the importance of supplier mapping as argued in the literature, the case company never implemented the tool in the organization.

Visualizing the need for change in an organization can be difficult, even when the intended change is made within an organization's boundaries (Kotter, 2007; Lewin, 1947a; b). The empirical data suggest that this visualization process becomes even more complex in supply chains, as both the focal organization and its suppliers need to be included in the process for a supply chain to unfreeze (Lewin, 1947a; b) Most studies that advocate for tools such as force field analysis or supplier mapping are focused on a single organization (Kotter, 2007). In these studies, the tools were used internally, and the results from the process were normally not

shared with any external parties (ibid.; Lund et al., 2020). According to the case company, information regarding supply risks, such as suppliers' stock levels and access to raw material, is oftentimes sensitive information which the company does not wish to share with others. On top of this, buyer-supplier relations are often guided by contracts that regulate the utilization and sharing of sensitive information. Consequently, visualization tools that were developed for use in an organization might not be applicable to supply chains. The case company thus needed to find a way of unfreezing in which the suppliers were included in the process.

Kotter (2007) argued that successful change begins when a need for change that has thus far gone unnoticed is discovered and communicated to the organization as a whole. Each year Essity holds business review meetings for each product line which are used to evaluate the status and relationship of all the suppliers. In these meetings, the company tracked any changes from the previous year related to ten different aspects such as geopolitical, legal, and financial risks. When needed, complementary meetings are held dedicated to specific topics, such as the monthly logistics review meeting. As argued by Lewin (1947a; b) and Kotter (2007), engagement of the group as a whole is crucial in the unfreezing phase. By having these meetings together with the suppliers, the case company ensures not only that changes are quickly discovered and acted upon, but also that any need for change is agreed upon by both Essity and the relevant supplier. In having these meetings as dedicated times for bringing up issues, Essity may have found a way to deal with the concerns raised by Kotter (2012) and McNamara et al. (2002) regarding managers unwillingness to communicate the need for change. On top of this, the case company ensures that there is always a dedicated group in charge of each change initiative, which is something that Kotter (2007) also argued for. As stated by the respondents at Essity, this group will bear the responsibility of ensuring that any risks or required changes are discussed cross-functionally with the relevant departments and that information is shared both internally and externally. They are thus in charge of forming a vision of what the organization wants to achieve and developing the strategies for achieving that vision which according to Lewin (1947a; b) and Kotter (2007) is crucial in creating change.

As the Covid-19 pandemic hit in 2020 the respondents at Essity seemed to be acting under a higher degree of urgency, which required different strategies than normal. To quickly share information between different departments, one individual created a shared Excel sheet that contained the location of each newly identified risk, and which suppliers may be impacted by it. Kotter (2007) found that about 75% of managers needed to be convinced that change was needed before any action could be taken. During the Covid-19 pandemic this file functioned as

the organization's only way to communicate internally which suppliers to prioritize. The empirical data also show that the case company did not face any resistance from the suppliers in gathering information from them. Accordingly, there seems to have been a uniform understanding of why collaboration was needed during the crisis. This indicates that the need for change might have been so apparent to all parties that the thorough communication recommended by scholars such as Lewin (1947a; b), Kotter (2007) and Wong-Mingji (2013) was not needed. Having a shared excel file and more frequent meetings proved sufficient to ensure that all individuals involved were aware of the urgency for change. Indicating that in this instance the forces for change, namely the Covid-19 pandemic and related disruptions, seem to have been enough to overcome any resisting forces. Thus, starting the change process which ultimately enabled the case company to mitigate disruptions caused by the Covid-19 pandemic. This is in line with Kotter's (2007) argument that events that put an organization in a crisis can increase the urgency to change. But while Kotter believed that a crisis would likely make a high degree of participation in the change process impossible, Essity managed to still engage their suppliers through frequent communication and mutual engagement in mitigating any disruptions. It also confirms the findings made by researchers such as Ali et al. (2017), Pereira et al. (2014) and Swanson (2016) who believe that organizations are better equipped to deal with disruptions when barriers against collaboration are decreased.

To summarize, there is no specific practice capable of initiating unfreezing in an organization. Lewin puts his focus on the need for visualization rather than how visualization can be achieved (Lewin, 1947a; b). Similarly, Fawcett et al. (2008) found that managers typically found different methods of visualizing their supply chain. The case company managed to unfreeze their organization by using both normal standard procedures, as well as practices that were tailored to deal with a specific disruption. The data gathered in this study thus indicate that the importance lies in having a system in place which enables the organization to systematically scan the supply chain for any need for change. The case company also found value in discussing changes both cross-functionally as well as with the suppliers. This enabled the organization to undergo a rapid change while still ensuring participation with the rest of the supply chain.

6.2 Movement, implementing planned change initiatives

After the urgency to improve supply chain collaboration has been identified and thoroughly communicated within the organization, the firm now starts implementing and engaging in activities to achieve the desired change (Lewin 1947a; b; Frohlich & Westbrook, 2001). According to Joshi and Kant (2012) and Fawcett et al. (2008), supply chain collaboration enablers are the most effective activities for organizations to improve their collaboration capability. The most commonly used enablers include information sharing, dedicated investments, joint relationship efforts, performance measurement, and trust among others (Cao et al., 2010; Singh et al., 2017; Doung & Chong, 2020; Huang et al., 2020). The chosen enablers need to reflect the insights of the unfreezing phase as well as the organization's environment (Fawcett et al., 2008; Ramesh et al., 2008). As the empirical data in this study reveal, the case company and their suppliers are implementing enablers and deploying new ones when needed. According to all respondents, the need for increased collaboration with supply chain partners to overcome potential disruptions was immediately followed by a higher involvement in the previously mentioned activities, the so-called collaboration enablers. This reflects the suggestions of, inter alia, Lewin (1947a; b), and Kotter (2007). If, however, the enablers really improve collaboration among supply chain members as suggested by literature has yet to be determined and will be analyzed in the following.

As all researchers, including Friday et al. (2018) and Fawcett et al. (2007) argue, information sharing is at the core of every collaborative relationship. For supply chains to operate and coordinate processes, strategically important information needs to be shared internally and among all supply chain members (Simatupang & Sridharan, 2011). Among the few researchers focused on internal information sharing, Duhamel et al. (2016) found that organizations need to overcome internal functional barriers between departments that will lead to a lack of knowledge about what incentives and goals other departments are pursuing. This mismatch of information within the firm can cause harm to the supply chain performance as non-accurate information may be shared with other supply chain partners. Therefore, firms need to align the incentives and goals of all departments internally before communicating with external stakeholders. This can be achieved through increased cross-functional communication between departments. Existing research on external information sharing, on the other hand, is abundant (see for example Nyaga et al., 2010; Friday et al., 2018; Doung & Chong, 2020). According to these researchers, higher levels of external information sharing have a positive influence on

other enablers such as joint planning, joint decision-making, and the degree to which organizations trust each other because it ensures increased transparency and incentive alignment (ibid.; Min et al., 2005). Thus, it facilitates engagement between organizations and is likely to lead to better collaboration between involved supply chain members (ibid.).

What literature suggests about information sharing is consistent with what the case company and their suppliers describe. Under normal circumstances, the case company's structure and ways of working involve sparse internal communication. Moreover, external communication among supply chain partners occurs only on a monthly basis and consists mainly of non-sensitive information. Kotter (2012) describes these practices as inhibiting the development of improved collaboration as they result in a lack of information sharing both internally and externally (see for example Duhamel et al., 2016). However, as the first disruptions caused by the Covid-19 pandemic occurred, Essity and their suppliers started actively working on diminishing existing hindrances to achieving a higher level of internal and external information sharing. This involved weekly internal cross-functional meetings and weekly meetings with suppliers. The resulting increase in the flow of information between the parties had a positive influence on their relationship, even to the extent that sensitive information was shared. Operating with increased frequency and extent of communication further established trust as argued in literature and demonstrated the existence of a better way of sharing information which could improve the collaboration in the supply chain (Simatupang & Sridharan, 2011; Friday et al., 2018). This rapid increase in information sharing may have occurred as a result of the driving forces towards increasing collaboration outweighed the resisting forces. To share more information and at a higher frequency was believed to be crucial in mitigating any disruptions by both Essity and suppliers. In other words, the Covid-19 pandemic created an urgency for more frequent communication which was strong enough to outweigh any inhibiting forces such as an unwillingness to share sensitive information.

According to Nyaga et al. (2010), high levels of information sharing tend to be correlated to high levels of commitment in the form of dedicated investments. Dedicated investments constitute an important contributor to success in collaboration, especially in instances when organizations are highly dependent on each other (Doung & Chong, 2020; Scholten & Schilder, 2015). Nonetheless, Essity and their suppliers found an alternative way to ensure the supply streams run smoothly by implementing comprehensive contracts and agreements. These cover multiple areas, such as logistical or financial responsibilities. Because these contracts exist there is normally no need to share resources in supply chains. The exception being sharing of

human resources between suppliers of raw material and Essity as this is one unique instance where the case company depends on the supplier's expertise. Thus, contradictory to what is often argued in collaboration literature (Rajaguru & Matanda, 2019; Cao et al., 2010), organizations seem to not engage in dedicated investments whatsoever when other alternatives such as contracts and agreements are available. One could thus argue that having comprehensive agreements in place also constitutes a hindrance to achieving proper collaboration as there simply is no need to collaborate on a higher level. Nevertheless, as suggested by Barratt (2004) organizations still need to be prepared to commit resources, if necessary, which Essity and their supplier also are.

The crisis in 2020 meant that standard agreements between Essity and their suppliers were no longer sufficient to cover all eventualities. As a consequence, both sides had to start sharing resources such as logistics or financial means in order to ensure a continuous flow of products and material. This seems to point towards Scholten and Schilder's (2015) finding that firms which are dependent on each other are more willing to make dedicated investments. Notwithstanding, this has to be treated with caution as Scholten and Schilder's (2015) finding might only be applicable if driving forces exist. The Covid-19 pandemic led to disruptions along the supply chain and required Essity and the suppliers to work together, thus increasing the dependency between the parties. Still, the empirical results of this study show, given a change of forces that drive the need for it, higher levels of dedicated investments are a necessary means to temporarily replace the agreements. Moreover, they positively affect joint relationship efforts and therefore collaboration among supply chain partners as argued by Huang et al. (2020) and Fawcett et al. (2008). The question remains if the state of higher collaboration can remain once the driving forces are diminishing. As the need for increasing collaboration declines the parties are likely to rely back on existing agreements. This is also the case for Essity and their suppliers. These findings are in line with Frohlich and Westbrook (2001) who investigated the supply chain integration among manufacturing firms and concluded that the level of integration differs between them. In our study, it was observed that the need for resource sharing differs between finished good supply streams and raw material supply streams. Combining Frohlich and Westbrook's (2001) findings with the findings of this study indicates that it is not possible for all organizations, even those within the same industry, to follow a universal approach. Instead, each firm has to develop their own approach. This is because recommendations on how to engage in dedicated investments may have to be based on the product characteristics.

On top of information sharing and dedicated investments, Nyaga et al. (2010) argue that joint relationship efforts are another important enabler for collaboration. Through joint planning, joint decision-making, and joint problem-solving organizations can align their interests and processes and quickly identify emerging risks and disruptions along the supply chain (Duhamel et al., 2016; Rajaguru & Matanda, 2019). Higher process integration and interest alignment and conflict resolution ensure better supply chain flows and can increase the trust between the involved parties (Singh et al., 2017). Despite this, Essity and their suppliers found yet another opportunity of effectively working together without frequent engagement in joint planning or joint decision-making. Like contracts and agreements covering resource responsibilities, the case company and their suppliers also have agreements in place which discourages Essity from engaging in these practices. Under normal circumstances, suppliers are fully responsible for planning and running their production, however, the crisis in 2020 once again meant that contracts and monthly information exchange with suppliers were no longer sufficient.

Using Lewin's (1947a) or Kotter's (2007) argumentation, during the crisis the need for working together in mitigating disruptions increased. In other words, forces emerged that necessitated better collaboration. This may have diminished the internal as well as external opposing forces that normally hinder deeper collaboration. Thus, within a short period of time, Essity started helping suppliers with production volume planning, obtaining raw materials, and planning transportation. Furthermore, Essity and both suppliers describe that whenever there is a problem or a disagreement that affects the flow of goods and material, both sides are willing and eager to engage and resolve the matter. Thus, the need for it exists and both sides depend on finding a quick solution for the problem. The resistance to increased collaboration is consequently low. Additionally, strategic plans and decisions in which Essity depends on their suppliers, for example regarding sustainability, cost savings, or product quality that cannot be fully covered by contracts, need a joint approach and therefore collaboration. Consequently, the focus should be put on joint relationship efforts that require Essity and suppliers to work together.

Having said this, the empirical data collected in this study reveal that the extent of engagement in joint planning and decision-making differs between the two product groups at Essity. Essity engages more in joint practices with finished goods suppliers as these often produce goods that are tailor-made according to Essity's specifications. In these instances, there is a mutual dependency between buyer and supplier as a result of the uniqueness of the product traded. Essity is dependent on receiving these products to fulfill customer demand while the supplier

is dependent on Essity because the characteristics of manufactured goods mean that it may be difficult to find another buyer for it. This interdependency requires the supply chain partners to engage in joint practices, as also suggested by literature (Scholten & Schilder, 2015). On the other hand, Essity shows a much lower degree of engagement with raw material suppliers compared to the finished good supply streams. Because there are plenty of suppliers offering the same or similar raw materials, Essity can shift orders to other suppliers if needed, as suggested by literature (Rajaguru & Matanda, 2019; Huang et al., 2020). As a result, the case company will engage in joint planning and decision-making only if absolutely necessary, such as in times of crisis. Literature regarding joint relationship efforts has the shortcoming of not taking into account that organizations have different needs of utilizing this enabler depending on what type of product they produce or sell (Nyaga et al., 2010; Kumar & Banerjee, 2012). Moreover, the same question as introduced above remains here as well: Will the higher level of collaboration remain once the need for it fades? It is likely that organizations will return to the old state and rely upon the agreements because the way of working seems to work well. The case company in this study stated that they will go back to the normal way of working with suppliers and reduce their involvement in planning and decision-making activities. The focus should consequently not remain on the enablers joint planning and joint decision-making but on those that are likely to remain, such as joint problem-solving. And as shown in this study, if they focus on these, the collaboration between the supply chain members can be increased.

The importance and influence that trust has on collaboration enablers according to the literature are in line with the gathered empirical data. According to Essity, trust was a prerequisite in order to implement and engage in all the previously mentioned activities. It is the binding element that enables organizations to improve their relationship as Ramesh et al. (2008) and Fawcett et al. (2008) described in their research. Moreover, the reciprocal influence of trust and other supply chain collaboration enablers suggested by Faisal et al. (2006) and Joshi and Kant (2012) were strongly supported by the empirical results of this study. Trust between Essity and their suppliers that mutually engaged in collaboration enablers to a high extent has improved. The more both sides engage in these activities the less resisting forces will exist that hinder the change towards increasing collaboration. Although, organizations have to be cautious of not overestimating their capabilities. Otherwise, they will not be able to meet what was promised and harm trust with others. This was also supported by the empirical data. The case company reported that trust with some suppliers decreased as a result of higher involvement in for example joint relationship efforts and dedicated investments and the

supplier was not able to deliver what was promised. Trust also decreased with organizations that were not engaging in joint practices with Essity at all and therefore did not show a high willingness to collaborate.

Strongly connected to the collaboration enablers discussed so far is performance measurement. Literature suggests the implementation of a performance measurement system as a way of checking the status of supply chain relationships (Friday et al., 2018; Singh et al., 2017). By evaluating the financial and non-financial performance of suppliers, firms can identify where improvement may be needed (Simatupang & Sridharan, 2008; 2011). If the performance is poor or a relationship not satisfactory, corrective action measures can be developed that will improve the relationship onwards (Singh et al., 2017). Kumar and Banerjee (2012) argue that regular evaluation of and working on the relationship will then lead to improved collaboration between the supply chain partners. What literature argues to be efficient in improving collaboration was also observed in this case study. The company performs an extensive performance evaluation of important suppliers every year, including a risk assessment as well as 'softer' but still quantifiable factors that impact the relationship quality. Thereby Essity gains an overview of the relationship and can measure the performance against the set KPIs, which coincides with the recommendations often made in collaboration literature. If Essity's evaluation reveals that the performance of a supplier is not satisfactory or the relationship is not at the desired level, the supplier has to establish a corrective action plan which is then shared forth and back between both to discuss and decide what should be implemented. Ultimately, the empirical data show that collaboration can be improved by including performance measurement practices in the business, financial but also non-financial ones. Furthermore, through evaluating suppliers and discussing corrective action measures, if needed, both can diminish potential forces that would hinder the relationship from reaching a higher level of collaboration, which is according to Lewin (1947a) the preferred method to facilitate change. How a company decides to implement the performance measurement is not specified within the literature. What we can learn from this study is that a unified approach would not be effective as each department and supply stream has its own approach. However, the empirical data indicate that supply streams that are within the same product group can implement the same system. This further supports our findings that recommendations of which enablers an organization should implement and to what extent should be based upon product characteristics.

6.3 Refreezing, making initiatives permanent in the organization

As has been shown in the previous unfreezing and movement stage, implementing changes during times of disruption may not be that difficult. The forces encouraging change are particularly strong in times of crisis, resulting in less resistance against the change (Kotter, 2007). Because there is a common acceptance for why change is needed, convincing the relevant individuals to partake in a change initiative becomes easier. A crisis may thus present an opportunity for organizations to improve their supply chain collaboration. However, the empirical data presented in this study suggests that a crisis is not enough to maintain collaboration long-term as organizations tend to only collaborate when there is a need for it. By their nature disruptions come and go (Kotter, 2012). The empirics suggest that the activities which were engaged in during the movement stage might disappear once the crisis is over and the need for collaboration is no longer as high. In his study of change in organizations, Kotter (2007) found that managers often were too quick in declaring change initiatives as successful. By neglecting to make changes permanent, they slowly disappeared over time (ibid.). To solve this issue, the final step of Lewin's (1947a) model involves refreezing the organization in its new, altered, state by reinforcing any changes made in the organization. This can be achieved by integrating the changes in the company culture through new norms, policies, practices, or procedures (Armenakis et al., 2000; Kotter, 2007; Wong-Mingji, 2013). Or as Fawcett et al. (2008) suggest, by developing skills and structures such as periodic environmental scans or dedicated teams. The importance likely lies not in the specific measure, but in the ability of this measure to make changes stick even when the forces which drive them have disappeared (Kotter, 2007).

The case company regularly engages in practices which are meant to ensure that collaboration with their suppliers continues to improve. These include measuring the relationship performance against set KPIs as well as holding annual business review meetings and vendor logistics review meetings with the organization's suppliers. These practices enable the case company to continuously evaluate the relationship that they have with each supplier. Such practices are important, as measuring the performance of each supplier enables organizations to track improvements (Kotter, 2007; Singh et al., 2017; Simatupang & Sridharan, 2008). The case company will keep engaging in these practices as they are mainly internal, and therefore easier to implement. In response to the Covid-19 pandemic, Essity also started having more frequent meetings with suppliers. In the meetings both Essity and the suppliers showcased a

willingness to collaborate and invest time in keeping each other aligned and informed. Both parties were also able to rapidly react to changes in their internal and external environment by sharing information more frequently. Because of these proven benefits, the meetings will likely become permanent practices in the organization. This is unsurprising as information sharing is often cited as the most important enabler to increase the collaborative capability of organizations (Friday et al., 2018; Doung & Chong, 2020). What is special about these practices is that almost all of them are executed together with the relevant supplier. Lewin (1947a; b) believed that parties that are affected by a planned change initiative should willingly participate in bringing about change. Thus, if a change affects multiple organizations, then these should in some way be involved in making the change permanent (ibid.). The various meetings used by the case company fulfill this demand. This may be an indication of why these are the specific practices that are likely to remain long-term.

The empirical data indicated that buyers and suppliers who are in frequent contact and work jointly and transparently on shared issues will develop a collaborative relationship over time. It also showed that suppliers hold buyers with whom they have frequent and open engagement in high regard. Despite this, many of the enablers implemented in the movement stage are unlikely to remain in the long term. This may be because constantly engaging in different collaboration enablers has been proven to be highly resource intensive (Kotter, 2007). The case company argued that having a collaborative relationship with all suppliers would be impossible as this would require resources which could be better spent elsewhere. As has previously been argued by Fawcett et al. (2008) and Gölgeci and Ponomarov (2015), a large number of relationships and information flows in a supply chain were seen by managers as a major barrier to developing collaboration with suppliers. To solve this issue, the case company divided their suppliers in different categories depending on their importance to the organizations. The main focus would be put on key suppliers while suppliers of less importance to the organization might receive less attention. This way of dealing with the complexity of the supply chain differs from what researchers such as Fawcett et al. (2008) recommends. Complexity in supply chains is often solved by reducing the number of actors involved and therefore the number of relationships that needs to be managed (ibid.). The reason why the case company chose to segment suppliers, rather than try to change the whole supply chain to be more collaborative, is that Essity has other interests which inhibit rationalization of the supply chain.

As described in the empirics, there are two different courses of action which the case company could take if a supplier is unwilling to collaborate. If the supplier is of less importance, or other

producers are selling similar products, then the business could be transferred away to another supplier. However, if a product is from a single source or produced by a key supplier, such as is the case with Supplier A, then the only option would be to discontinue sales of this product. Yet several respondents stated that they would be highly reluctant to get rid of a supplier if they are dependent on them, even when they may not collaborate as well. This contradicts the ideas presented by Fawcett et al. (2008) that suppliers which are unwilling to collaborate should eventually be phased out. The empirical data suggests that a non-collaborative key supplier will likely be kept as a partner because of the large costs involved in switching from an important supplier.

Certain product lines at Essity source their products from single-source suppliers, meaning that they are dependent on that supplier for continued sale of the product. This dependency creates an incentive for the organization to collaborate with that supplier to maintain a good relationship. In these instances, the forces acting for collaboration make it worthwhile for the organization to invest in implementing different collaboration enablers (Fawcett et al, 2008; 2010). However, it is likely only when both supplier and buyer are mutually dependent on each other that collaboration will develop. If the dependency is one-sided, such as described by Supplier B, then there is still a risk of that organization being phased out. This makes collaboration less likely to develop in such relationships. Dependency, thus, seems to have a strong impact on whether or not a collaboration between buyers and suppliers can be developed. Interestingly, higher dependency seemed to also be correlated to a high degree of mutual trust, as multiple respondents reported having better relationships and a deeper level of trust with more important suppliers. Trust is the binding force in relationships among supply chain partners (Ramesh et al., 2008; Fawcett et al., 2008; Faisal et al., 2006). It is also important in implementing and sustaining change, as planned change often takes time (Kotter, 2007). The data thus indicates that changes are more likely to become permanent when the actors in the supply chain are mutually dependent on each other.

7. Conclusion

This chapter presents the main ideas from the analysis and answers this study's research question 'How can an organization improve its supply chain collaboration through planned change?'. Following the findings, theoretical and practical implications will be presented. Lastly, suggestions for future research will be suggested.

7.1 Findings

This study has examined the implementation of planned change initiatives in supply chains. The thesis aimed to attain an increased understanding of how planned changes can be implemented in a supply-chain context to improve vertical collaboration between buyers and suppliers. This would be achieved by answering the following research question; *how can an organization improve its supply chain collaboration through planned change?* To answer this question, we relied on a theoretical framework based on the change approach presented by Lewin (1947a; b) and the work of other scholars within the field of change management which followed in Lewin's footsteps (see for example Burnes, 2020; Kotter, 2007; Rosenbaum et al., 2018). This framework informed the data gathering process, which was conducted through a series of interviews with one case company and two of the company's suppliers. The framework also guided us in analyzing the collected empirical findings. Though scholars' opinions vary regarding the appropriate numbers of steps involved in achieving planned change, many of their models are closely related and follow the same pattern of identifying a need for change, implementing the changes, and finally making changes permanent in the organization (see Rosenbaum et al., 2018). The sequential change argued for by these researchers was found to be applicable also in implementing changes in supply chains. However, this study found that any model for change that is applied in a supply-chain context might need to be adapted depending on the context in which it is applied, the reason for which will be explained below.

Resistance in supply chains is often caused by inter-firm relations (Fawcett et al., 2008). For our study, this meant that the source of constraint varied in different buyer-supplier relationships. This resulted in supply chain members having different degrees of involvement in the change process. Our study thus supports Lewin's (1947a) and Kotter's (2007; 2012) ideas of group participation in change, to some extent. The results confirm that group participation makes it easier to visualize a need for change, supports the implementation of

collaboration enablers, and increases the likelihood of collaboration remaining in the long term. However, the results also contradict Lewin and Kotter on one point. While these researchers argue for involving all affected parties when implementing changes, our results indicate that this is neither desirable nor indeed possible when changes are to be made in a supply chain.

Our study found that buyers and suppliers may be unwilling to invest the time and resources required to change their relationship for the better. This commonly occurred in two situations. In the first situation, the parties were not dependent on each other to continue producing and selling the product which they trade, and therefore had no incentive to invest in the relationship. In the second situation, the buyer and supplier had an asymmetrical dependency structure, either because the traded product was highly unique and thus difficult to replace, or the buyer accounted for the majority of the supplier's sales. In these situations, both parties' commitment to the relationship was still somewhat hindered, as investments may go to waste should the relationship end. In both situations, the lack of incentives to change the relationship created a barrier against collaboration which hindered improvements from being made. Consequently, when an organization had little to no dependency on a supply chain partner, they would not be included in the change process. Instead, there tended to be a mutual dependency between the organization and the partners which were included. Mutually dependent incentivized partners to invest in their relationship, and thus removed the resistance present in relationships where dependency is lacking. As a result, these were the partners who managed to improve and maintain collaborative relationships. This strongly supports the idea presented by Lewin (1947a) and Zand and Sorensen (1975), who believed that driving forces must outweigh the restricting forces for planned change to take place.

The dependency structure between buyers and suppliers also affected how well collaboration enablers could be implemented and maintained. This study found that organizations' aspiration to spend resources efficiently meant that enablers were often implemented and maintained only in mutually dependent relationships, where they would be most effective. However, not all enablers remained in the long term, even when they were implemented in mutually dependent relationships. Although our study found that buyers and suppliers did implement most collaboration enablers, the majority of them were temporary and only used during times of crisis. Our study found that an extraordinary event, such as a major disruption, might be required for supply chain collaboration to be improved. This contradicts the arguments made by researchers such as Fawcett et al. (2008), Frohlich and Westbrook (2001) and Min et al. (2005) who believe that implementing enablers is how planned change is brought about. Our

study showed that only internal practices, such as internal information sharing and performance measurement, were used by the case company on all occasions, and for all suppliers. The remainder of the enablers were found to be heavily affected by the buyers' and suppliers' perceived urgency to implement them. Our study thus confirms the argument made by Kotter (2012). He believed that crises reduce the resistance to collaboration by creating an urgency to change, thereby making changes easier to implement. But when the crisis passes, the organization would revert to non-collaborative behaviors (ibid.). Out of the externally applied practices studied in this thesis, only information sharing was found to remain long-term, and only with mutually dependent partners. Relationship-specific investments, resource sharing, and joint activities were only engaged in during a crisis, as these activities are normally regulated by contracts and agreements which removes organizations' incentive to engage in many activities. With all these findings in mind, we recommend that planned changes in supply chains be implemented as follows.

To permanently improve supply chain collaboration, a need for change has to be identified, acted upon, and then made permanent in the organization (Lewin, 1947a; Kotter, 2007; 2012; Fawcett et al., 2008; 2010). However, supply chains contain a multitude of relationships characterized by different degrees of dependency and trust, all of which require different treatment. Consequently, we would argue that distinction has to be made between different groups when implementing planned changes in supply chains. This may affect how different change models and approaches can be applied, as different change strategies may be required depending on the nature of the buyer-supplier relationship. We believe that Fawcett et al. (2010) were correct in arguing that collaboration enablers improve an organization's collaboration capability when implemented. Organizations should therefore always engage in internal practices such as performance measurement and internal information sharing as these are implemented within the organization's own boundaries. A crisis or other strong urgency to improve collaboration presents an opportunity to use collaboration enablers implemented outside of the organizational boundaries, such as joint practices and resource sharing. However, for these enablers to permanently improve collaboration they need to remain in the long term (Fawcett et al., 2008; 2010). Maintaining these enablers for all actors in a supply chain is incredibly resource-intensive (ibid.). To deal with this issue, we recommend that organizations follow a process of incremental improvement of collaboration in supply chains.

We suggest that organizations first focus their change efforts on mutually dependent, trusted partners, where changes are easier to implement and maintain. Subsequently, the focus should

be put on partners with whom the organization has an asymmetrical dependency structure, as more effort is required to implement changes in these situations. Finally, the organization can, if desired, move on to partners with whom they mainly have transactional relationships. However, as these partners will likely be unwilling to engage in any planned change initiatives with the organization, we do not recommend that organizations proceed to this final step. Implementing changes in these three steps would allow supply chain collaboration to be improved in a manner that is likely to create small wins along the way as argued for by Kotter (2012). By following this approach to planned change organizations can improve their supply chain collaboration, preparing the supply chain to deal with any future disruptions which may occur.

7.2 Theoretical and practical implications

There is no one size fits all strategy for improving collaboration in supply chains. Rather our findings suggest that what is required for collaboration to improve is contingent on the degree of dependency between each supplier and buyer. This has implications for both theory and practice.

For practitioners, the findings made in this study imply that change initiatives will have to be implemented differently for different suppliers or buyers. Practitioners will only be successful in implementing change initiatives towards higher levels of collaboration if they account for relationship-specific characteristics such as dependency level, trust level, and the nature of the goods traded. This means that practitioners may have to use different strategies to create change for different partners, each tailored to fit the requirements of the relationship. We recommend that organizations improve their supply chain collaboration in steps, starting by focusing on relationships where collaboration is more likely to develop and eventually moving on to relationships where the resistance to collaboration is higher. A crisis or great urgency to improve collaboration likely makes this process easier and should therefore be considered as an opportunity to change. The downside of using this approach is that many change models and approaches, such as Lewin's 3-step model, may become more difficult to use. These models and approaches are often linear to some degree (Kotter, 2012). Practitioners are expected to complete each step in the change process before moving on to the next (ibid.). If supply chain partners are to be treated separately based on their dependency level, then the

linear structure of these models and approaches suggests that practitioners might have to go through the entire process of change multiple times. Consequently, more research will have to be conducted to make change models and approaches applicable to supply chains. Researchers can support managers in their endeavor to increase supply chain collaboration by studying how the level of dependency between buyers and suppliers affects the implementation of planned changes. To do so, scholars may wish to focus their studies not on organizations or supply chains as a whole, but rather select their unit of study based on the degree of dependency between suppliers and buyers.

7.3 Suggestions for future research

Although this thesis provides interesting findings regarding supply chain collaboration, the study was limited to vertical collaboration between buyers and suppliers. Future research could therefore extend this study by including horizontal collaboration. This may include studying how collaboration can be developed either between firms that are competitors, or between organizations that are unrelated to each other such as suppliers, governmental bodies, or non-governmental organizations. We also strongly suggest that future studies look at how collaboration can be developed between two suppliers, as the low dependency between competing organizations may have interesting implications on how collaboration develops in such relationships. Moreover, this study could be further extended by including multiple firms in different industries.

Another suggestion for future research would be to include additional collaboration enablers, for example, joint knowledge creation, standardization of processes among others, to complement the ones analyzed in this study. When doing so, it may be valuable to consider the organization's ability to control how the activity is designed and implemented. This is due to the fact that implementing and using collaboration enablers which will mainly be used internally in one firm (such as performance measurement) was found to be easier than implementing enablers outside of the organization's boundaries (such as joint planning).

8. References

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9. Appendices

9.1 Interview guide Essity

Part 1: example of disruption (open question)

Can you describe an instance when your department was impacted by a disruption in your supply chain?

Part 2: Unfreezing the organization

Is your firm/department engaged in mapping out your suppliers?

- If yes: what are the expected benefits?
- If no: Do you keep track of where your suppliers are located, and do you have any risk classification for them?

Does your firm have an evaluation system for the relationship with your suppliers?

- If yes: How frequently do you evaluate the performance of your activities?
- If not: Do you think this is something that might be useful in the future?

Part 3: Collaborative activities

Does your department normally engage in resource sharing with your supply chain partners?

- If no: Do you engage in resource sharing to mitigate disruptions?
- If yes: Do you see any changes in this resource sharing during disruptions?

How does your firm communicate/share information with other supply chain members during times of disruption?

Does your firm engage in Joint practices with suppliers along the supply chain?

- If yes: Is this something that changes during times of disruption?

How do you establish/recognize if you can trust your supply chain partners?

Do you feel like there is a widespread willingness in your company to collaborate with suppliers? Has this changed as a result of a disruption?

Does your firm help suppliers improve the performance of your suppliers?

Part 4: Refreezing the organization

Are there any of the collaboration related activities which you and your supply chain partners engaged in during a disruption which you wish to engage in more?

- If yes: what value do you think engaging in these activities brings?
- If no: Why would you not engage in these activities in the long term?

Part 5: concluding remarks

Is there anything you think would be important for us to know which we forgot to ask?

Do you have any questions for us?

9.2 Interview guide suppliers

Part 1: example of disruption (open question)

Can you describe an instance when your firm was impacted by a disruption in your supply chain? How did your firm's engagement with your customers [Essity] look during this time?

Part 2: Unfreezing the organization

Has your firm engaged with your customers [Essity] in mapping out the supply chain you are in?

Does your firm have an evaluation system for the relationship you have with your customers [Essity]?

- If yes: How frequently do you revise this?
- If no: Do you think this is something that might be useful in the future?

How can your customers best support you during a disruption?

Part 3: Collaborative activities

Do you and your customers [Essity] normally engage in resource sharing?

- If no: Do you engage in resource sharing to mitigate disruptions?
- If yes: Do you see any changes in this resource sharing during disruptions?

How does your firm communicate/share information with your customers during times of disruption?

Does your firm engage in joint practices with customers [Essity]?

- If yes: Is this something that changes during times of disruption?

How do you establish/recognize if you can trust your supply chain partners?

Do you feel like there is a widespread willingness in your company to collaborate with suppliers? Has this changed as a result of a disruption?

Has your customers [Essity] ever helped your firm improve its performance?

Part 4: Refreezing the organization

Are there any of the collaboration related activities which you and your customers [Essity] engaged in during a disruption which you wish to engage in more?

- If yes: what value do you think engaging in these activities brings?
- If no: why would you not engage in these activities in the long term?

Part 5: concluding remarks

Is there anything you think would be important for us to know which we forgot to ask?

Do you have any questions for us?