

Supplier management – Dealing with risky business

A single case study of ERM and SCRM interaction
in a multinational company context

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Abstract

Enterprise Risk Management (ERM) has emerged as an important area of management control in recent decades. Extending on previous research which has focused on how ERM is implemented within companies, this thesis investigates how ERM practices interact with risk assessment and management of supplier relationships. Specifically, we study how a large multinational company (MNC) integrates its Supply Chain Risk Management (SCRM) with its ERM system. An interview-based case study was undertaken of the manufacturing company Omikron. Based on an analysis of perceived rationalities, experts and technologies of risk management across organizational levels, we find that there are differences in risk conceptualization depending on closeness/distance to ERM and SCRM respectively.

Keywords: Enterprise Risk Management systems, Supply Chain Risk Management, risk management, MNCs, events

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1. Introduction

It is a complex business world that we are living in. The constantly increasing competition sets the bar high for enterprises that aspire to thrive in this battlefield, called business. Concepts like *business as usual* become less relevant since the world continuously changes towards new and more advanced states of conducting business. This route to the unknown encompasses a significant degree of uncertainty. Sometimes uncertainties could be viewed and addressed as opportunities in the disguise of risk and sometimes they are severe risks that should be managed with great consideration. The acknowledgement of a risk's existence is the first step to its treatment, but that does not help when approaching risks that cannot be distinguished. Is there any prescription for dealing with risk issues? Could systems and tools be created for forearming enterprises for entering this battlefield? The situation seems like going to war. A war against risk that can erode companies' value and even lead them to a state of oblivion. However, enterprises do not stand alone on this field and definitely not unequipped. During the last decades a lot of academic research has taken place in order to respond to the increasing need of risk management within organizations. Especially, after the financial crisis of 2008 several researchers have concluded that there is a gap both in academic literature as well as in practice related to the perception and management of enterprise risks. Various academics and authorities have attempted to bridge this gap, proposing Enterprise Risk Management (ERM) frameworks (e.g. the COSO framework, 2004), performing prescriptive (e.g. Arena et al., 2014) and empirical (e.g. Mikes, 2009) studies around the implementation of risk management in corporations as well as criticism against the way concurrent ERM systems are perceived, managed and practiced (e.g. Power, 2009).

Despite the fact that there has been a plethora of studies within the field of ERM, there is still not consensus concerning several areas. There is, for example, no single ubiquitous definition of ERM. The different ways of framing what ERM is; may be as many as there are active ERM systems in use in the business world. A few general characteristics can, however, be observed. ERM systems are typically designed with the aim of connecting risk management with the company's overall strategy and ERM should ideally penetrate all company levels and take a holistic perspective of risk management. Despite the high-flying ambitions of ERM systems, there are frequently substantial gaps between the ambitions as outlined in fancy ERM documents and the actual implementation in firms. In addition to this, even ERM

in its purest form, as framed by an often recurring ERM framework; the COSO framework (2004), has received extensive criticism. Most notably, Power (2009) has contributed with firewood to the flaming ERM debate. One of the areas he criticized, which lies at the heart of this study, is the embeddedness critique, namely that ERM systems, in the shape prescribed by COSO (2004), fail to take the entity's entire business network and, subsequently, its full risk picture into account. This study aspires to contribute in this field by investigating an area where the embeddedness critique becomes central. Doing so requires us to identify an external actor that could have substantial influence on the main entity's ERM system while not being a direct part of it. Thus, we have decided to look at supply chains and the connections that the company has with external actors within this function. In order to delimit our study in a manageable fashion, we have opted to focus on the supplier side of the supply chain, i.e. the side of the supply chain where our case company serves as a purchaser. We have settled on focusing on a company of considerable size in order for it to possess substantial supplier relations and a sufficiently complex company structure to see the need of an ERM system. This has led us to focus on a multinational company (MNC).

A topic that generates discussion when it comes to large MNCs heavily working with external entities, such as suppliers, is that of effective management of such relationships. That type of cooperation contributes to the creation of interdependencies among the actors and entails a significant number of risks. To a large extent, such risks belong to separate entities, however, they have impacts on the network as a whole and they cannot be controlled within the limits of just one entity. This is where Supply Chain Risk Management (SCRM) steps in, since, from a large MNC's perspective, SCRM is a system¹ that could contribute to managing its suppliers.

This background has led us to develop the following research question:

How does the ERM system of a large MNC interact with the risk management of the organization's suppliers?

For addressing our research question, we opted to conduct a single case study that could enable us to go in depth when investigating the issues of ERM and SCRM as well as have the clearest picture possible of one company addressing and dealing with these topics. The industry was chosen by considering the fact that empirical studies about companies that do

¹ We define a system as a formalized and systematic work process.

not belong to the financial sector have been scarce, and ERM systems may be less developed in the non-financial sector. Moreover, non-financial companies may provide the advantage of combining ERM systems with SCRM systems due to the fact that they have distinct supply chains and supplier relationships to manage. Therefore, we turned our gaze to the manufacturing sector. A crucial point for addressing our research question was the existence of an extensive supplier network. Indeed, our case company is an industrial organization that is substantially dependent on its suppliers. We investigated events that could take place in the interface between our case company, acting as a purchaser, and its supplier network and the potential impact that those events could have on the organization's ERM system. The investigated events were used to fortify our study's findings with empirics and act as examples of risk management situations residing in the linkage of the company with its supplier network.

Our findings suggest that there is a gap between ERM and SCRM, mainly due to how close managers' duties are to ERM and SCRM, even though the interviewees saw the necessity to have a strong connection between the two systems. We also found that perceptions of ERM differed between various functions, underpinning the need to not only take an entity view when analyzing ERM. Moreover, our research findings are in line with Power's (2009) third critique of embeddedness, as well as his first critique of an entity-wide risk appetite. We also found that ERM did not penetrate the entire company, resided mainly on a managerial level and was dependent on specific people.

In order to lead the reader through the thesis in a comprehensible manner, it has been structured into six main sections. After this first introduction section, we will move on to section two where the necessary theory will be presented, both in terms of previous research and the conceptual framework. The previous research part will provide a background of what has been achieved within the fields of ERM and SCRM and led to the point where we take off. The conceptual framework part will introduce the backbone that will be used to analyze the empirics later in the thesis. Thereafter, in section three, the method used while carrying out the study will be introduced. This section will also provide a brief introduction to the case company. In section four, the empirics gathered from the investigations in the case company will be presented. This information will subsequently be analyzed in section five using the conceptual framework from section two. Eventually, the thesis will conclude with a discussion in section six.

2. Theory

2.1 Previous research: The paved road to ERM and SCRM

Our interest in the interaction between ERM and SCRM directs attention toward previous research on ERM practices. However, because our focal interest is on suppliers, we also engage with the management of inter-organizational relationships. A paper connected to the aforementioned issue is that of Håkansson & Ford (2002) who have investigated the area of interdependencies within business networks. Their main point is that “no one relationship can be understood without reference to the wider network” (Håkansson & Ford, 2002, p. 134) and they identify three paradoxes that arise from such situations. First, they claim that no company can act freely in a network, but rather is a result of the network it acts in. Second, they state that “a company’s relationships are the outcomes of its strategy and its actions, but the paradox is that the company is itself the outcome of those relationships and of what has happened in them” (Ibid, p. 136). And finally, they highlight the third paradox which is that “the more that a company achieves this ambition of control, the less effective and innovative will be the network” (Ibid., p. 137). There is a risk that the network transforms into a hierarchy. The firm should therefore not strive to control the network too firmly to benefit from the innovation and knowledge in the network since there is a trade-off between control and creativity. Looking deeper in the networks and focusing on the interfaces that a company (as a buyer) can have with its suppliers when it comes to purchasing, Araujo et al. (1999) ask: How should the buyer access suppliers’ resources? Based on how the network’s resources are related, buyers can define their competitive position in terms of productivity and innovativity. Their main finding is that there are multiple types of interfaces between different kinds of buyers and suppliers in inter-organizational relations. Taking a step further into the management of networks’ interdependencies, Alenius et al. (2015) presented a case study where certain accounting tools, such as open book accounting (OBA), could enable companies (as buyers) to control their first tier of suppliers and influence their second and third tiers, enhancing the embeddedness of supply chain relations and fortifying their competitive position. Hence, when it comes to networks, the tools and systems used for managing these relations are important. The discussion about inter-organizational relations directs attention to ERM which is a system that should take a holistic view on risk, supposedly then including those that appear in a network.

2.1.1 ERM: A plethora of definitions and approaches

ERM is an area that has received increased attention by researchers and business actors in recent times and that is visible in the variety of frameworks and diversity of ERM systems in practice that we can see today. Hence, ERM is not a tool that looks the same in every context. To get a feel for the variation in the field, this section will outline some of the most influential prescriptive frameworks and models, as well as studies of actual ERM implementation in various corporate contexts, and some principal criticism of ERM.

Prescriptive ERM frameworks

A formative moment in the field of ERM was the creation and proposal of the Committee of Sponsoring Organizations of the Treadway Commission (COSO) framework in 2004. COSO (2004) outlined an integrated framework for ERM², which intended to enable companies to incorporate risk in their strategy in a holistic manner. COSO (2004) attributes a unidimensional notion to risk appetite, i.e. that an entity has one single risk appetite. Additionally, according to the framework, ERM systems should contribute to the achievement of firms' objectives. Another well-known framework is the ISO 31000. It is an alternative approach to COSO (2004) and emphasizes three main procedures for managing risk: risk architecture, risk strategy and risk protocols (Airmic & Irm, 2010). However, the fundamental objective of the ISO 31000, is the same as COSO's (2004): to provide guidance to work with ERM (www.iso.org).

In addition to the aforementioned ERM frameworks, there are alternative methods with different organizing principles building up a framework. One example is the *Spring Model* developed by Arena et al. (2014). They propose a model for operationalizing ERM within entities using the concept of project-based organizations' capabilities. Its basis is comprised of two main elements: ERM and capabilities. They use the definition of ERM as provided by COSO (2004). They also define capabilities (i.e. springs) as "tools that can be used to answer to deviations from the strategy and represent the ability to exploit resources in combination with organizational processes in order to achieve the desired effects" (Arena et al., 2014, p.

² The COSO framework (2004) defines ERM as: "... a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives" (COSO, 2004, p. 2).

182). Their findings support the notion that various capabilities within entities can be exploited, by different management levels and processes, in reactive or/and proactive manners in order to cope with events that could impact their objectives and strategy. In the present study, the Spring Model contributes to identify capabilities in order for the company to respond to risks when designing strategy. This indicates the usefulness of using events to investigate how companies work with risk management.

Quantitative ERM research

During these last years, several academics have conducted case studies investigating ERM in practice. In terms of quantitative research, a widely cited study is that of Beasley et al. (2005). They survey chief audit executives in order to investigate which factors cause companies to establish an ERM system. They find that ERM implementation is “positively related to the presence of a chief risk officer, board independence, CEO and CFO apparent support for ERM, the presence of a Big Four auditor, entity size, and entities in the banking, education, and insurance industries.” (Beasley et al., 2005, p. 522). The study provides findings in understanding what drivers push for the development of an ERM system, and for our study, the key takeaway is that ERM is established in complex organizations.

Paape & Speklé (2012) performed a quantitative empirical study with the aim of answering two main issues; (i) how extensive is ERM implementation and what factors lead companies to implement an ERM system? And (ii) how do specific ERM design choices influence the perceived effectiveness of ERM systems? The results show that publicly traded firms have more mature ERM systems and owner-managed firms seem less likely to invest in ERM. The presence of a CRO and an audit committee also contributes. Moreover, larger organizations and financial firms have more developed ERM systems. Contrary to Beasley et al.’s (2005) findings, no support could be found for having a Big Four auditor. When it comes to the second question they received questionnaire responses from organizations that had already implemented some sort of ERM systems. Firstly, the adaptation of the COSO framework (2004) does not seem to affect effectiveness. Moreover, quantification of risk tolerance does not contribute to effectiveness. There is neither any significant effect for the engagement of lower level management. Richness of retrospective and prospective risk reporting does not have any effect either. Last but not least, size seems not to have any effect. On the affirmative side, they conclude that the usage of quantitative risk assessment techniques, the frequency of

risk reporting and the frequency of risk assessment have positive correlations. There is also a negative correlation for organizations in the (semi-) public sector. The article cements the notion that ERM practices vary extensively between companies and jurisdictions. Taken together, these studies suggest that complex organizations have ERM, but precise circumstances for establishment vary. The Paape & Speklé (2012) study further highlights how organizations influence ERM perceptions, but gives no insight into the operations of ERM systems.

Qualitative ERM research

A series of qualitative studies have investigated operations of ERM system, thus we move from quantitative to qualitative studies. Mikes (2009) aimed at making sense of the vast diversities in ambitions, objectives and techniques that are prevalent in the ERM context. She performed a longitudinal field-study with two large financial firms and investigated how ERM achieved organizational significance. To begin with she accounts for four ideal types of risk management; Risk Silo Management, Integrated Risk Management, Risk Based Management & Holistic Risk Management. Her main finding was that there are two types of ERM models used in the two companies; ERM by the numbers and holistic ERM. She discovered two substantially different attitudes toward how risk should be communicated and used within the two types of ERM. The company that had ERM by the numbers had a clear tendency to interpret and convert all sorts of risks into numbers, and they are hence referred to as *quantitative enthusiasts*. For the other firm which was identified as having a holistic ERM, the opposite tendency was observed. For them the most crucial risks were not considered quantifiable and risk was therefore discussed qualitatively instead. This attitude has been labelled *quantitative sceptics*. The study adds to the knowledge about the diversity between seemingly similar companies.

Arena et al. (2010) elaborated on variations in the operations of ERM in their study of ERM implementation in three non-financial organizations. The authors use three elements, drawn from a previous study by Rose & Miller (1992), to analyze the operation of risk management: *risk rationalities*, the process of “how uncertainty is conceptualized into risk” (Arena et al. 2010, p. 660), *uncertainty experts*, those professionals within firms “involved in controlling uncertainty” (Ibid., p. 660) and *technologies*, “the complex sets of practices, procedures and instruments enacted to accomplish the management and control of risks.” (Ibid., p. 660) It is a

longitudinal case study that compares three different entities where the authors argue that the way those three aforementioned elements are arranged, affects the design, implementation as well as the importance of ERM's role within firms. According to the authors, ERM affects and gets affected by the environment in which it is implemented. They investigate how ERM could get challenged by already existing processes within the organizations and thus, perceived just as an add-on on the existing internal control systems. Furthermore, the authors present how the actors (CROs, internal auditors, management accountants, etc.) assigned with the responsibility for ERM within companies influence its significance and the way it will be used, as well as how the established technologies, used for executing the corporation's strategy, reveal whether ERM becomes embedded or decoupled within firms (formal reports, risk measurement, budget risk analysis, etc.). Their findings show that, in two cases, ERM is treated merely as an additional internal control process and a typically diagnostic procedure decoupled from the companies' budgeting and overall strategy. However, in their third case ERM is not treated just as a compliance procedure but rather as an interactive system and a value creator for the organization. It is placed in the center of managers' attention and responsibilities and is connected with their rewards' system and the firm's budgeting process. Overall, the main conclusion of their study is that ERM's embeddedness or decoupling from companies' daily operations and overall strategy depends on whether uncertainties are depicted as tangible risks, on people working with ERM (their capabilities, goals, bias, etc.) and on the complex procedures followed for carrying out organizational strategies. This study provides knowledge about the actors and their contribution to the embeddedness or decoupling of ERM in non-financial organizations.

Jordan et al.'s (2013) paper addresses the research question of how risk maps could be used, within an inter-organizational context, as mediating instruments that enable the alliance of different actors' interests, the creation and fortification of their confidence and commitment to ongoing projects and the projects' progress along time. The authors position themselves within the ERM conversation with the argument that risk maps, as ERM technologies, are not merely and primarily tools for increasing attention towards warning signals and production of audit trails, as prior research suggested. They contribute as a follow up study to Mikes (2009) argument about *holistic risk management*, Arena et al.'s (2010) findings about technologies used in practice for performing efficient risk management as well as Power's (2009) critique against simplistic treatment of ERM. This study shows that ERM technologies, like risk maps,

can be used in inter-organizational contexts, like a supply chain, for the design, management and redesign of ERM systems when certain events occur during the production process.

Research criticizing ERM

In addition to the prescriptive and empirical areas of research, there is an extensive field of criticizing studies. For example, Mikes & Kaplan (2013) criticize current practices by mentioning that “some sceptics see ERM as part of the problem itself” (Mikes & Kaplan, 2013, p. 2), by referring to Power (2009) (see below) and by proposing a new contingency ERM framework. As an alternative to COSO’s (2004) definition of ERM they provide a new practical-based definition.³ Among other studies, they criticize Paape & Speklé (2012) as well as Beasley et al. (2005) for relying on simplified variables to mirror complicated phenomena. Thus, they have adopted and presented a contingency approach to ERM in order to avoid providing a *one size fits all* framework that would deprive organizations from fitting their specific risk types with the appropriate ERM mix and calculative cultures i.e. *quantitative enthusiasm* and *quantitative skepticism* (Mikes, 2009). Mikes & Kaplan (2013) identify four fundamental components of ERM: processes for identifying risks, frequency of risk identification, risk communication tools and the risk function’s role. These components are not supposed to be regarded as prescriptive, but rather as a result of their investigation. This paper contributes to the criticism of the established notion of ERM. It also provides a different definition for ERM and an allegedly more flexible framework in contrast to the prescriptive ones that dominate the ERM academic conversation up to now.

In 2009, Power published an article which has received much attention from various ERM researchers. Power (2009) delivers extensive criticism on the prevailing view on ERM. More specifically, he acknowledges the need to find the root to failing risk management practices in the system rather than in the human factor, which seems to have received most of the blame of the market failure during the recent financial crisis and its impacts on firms. Power (2009) has three main areas that he problematizes in the article. The first area is the concept of risk appetite which Power (2009) means is gravely simplified in present ERM frameworks, such as the COSO framework (2004). In current practices, focus is more on capital rather

³ Definition: “Enterprise risk management consists of active and intrusive processes that (i) are capable of challenging existing assumptions about the world within and outside the organization; (ii) communicate risk information with the use of distinct tools (such as risk maps, stress tests, and scenarios); (iii) collectively address gaps in the control of risks that other control functions (such as internal audit and other boundary controls) leave unaddressed; and, in doing so, (iv) complement—but do not displace—existing management control practices” (Mikes & Kaplan, 2013, p. 13-14).

than human behavior and this, according to Power (2009), has contributed to the intellectual failure within ERM. He argues that risk appetite should be regarded as a “process for representing and intervening in the complex ecology of operational values and shifting ethical limits (rather than just) a thing” (Power, 2009 p. 854). This will lead to a less comfortable view on risk appetite as it cannot just be considered something that could be easily measured and applicable all over the organization. The second area that Power (2009) criticizes is that ERM systems tend to work with easily observable and auditable risks and avoid dealing with uncomfortable and more elusive risks. It seems easy to turn ERM into a box-ticking activity and, although comfortable and easily auditable, this practice does not capture the risks that have the most impact and importance. The third area that Power (2009) criticizes is the embeddedness of risk. In the article, he states that “no enterprise is an island” (Ibid., p. 853). Risk management has more often than not treated companies as self-standing entities and downplayed the impact of their interconnectedness with other actors on the market. This is a shortcoming of several ERM systems since they, rather than testing and challenging limits, serve to establish and fortify the borders of the company toward the rest of the world. Power (2009) proposes that ERM needs to challenge boundaries a lot more and always account for the outside world in order to better capture actual risks. Power’s (2009) critique directs the attention to observe how companies take risks in external actors into account in their ERM systems. Thus suppliers, and the way risks are managed in supply chains, emerge as a suitable area to investigate.

2.1.2 Risks in supply chains: An extended view of risk

In parallel with the development of the ERM literature and the subsequent criticism to it, there has been an observed surge in the Supply Chain Management (SCM) literature. As described in the aforementioned article, Power (2009) strongly criticizes, among other things, the lack of embeddedness related to ERM and the different layers of organizations as well as the existing distance between the entity level risk management and the systemic risks. The SCM literature also exhibits this separation between ERM and supply chain management.

Over the past decades, several researchers have attempted to establish comprehensive and generalizable methods to evaluate and manage supply chain risks. Therefore, there is extensive diversity in this field, just as in ERM research. One of the most cited attempts in the area is the Analytical Hierarchy Process (AHP) model, proposed by Gaudenzi & Borghesi

(2006). The AHP model is intended to create awareness of the supply chain risk “... with a view to improving the objective of customer value. The two phases of the method are the prioritization of supply chain objectives; and the selection of risk indicators” (Gaudenzi & Borghesi, 2006 p. 114). The involvement of managers is crucial in the implementation and this shows a link to ERM (e.g. Beasley et al., 2005). They also realize the critique by Power (2009) when stating that risk exists in a variety of levels across organizations (risk appetite) as well as within their network (embeddedness). They also claim that the evaluation of risk is a subjective process depending on people’s perception of what constitutes risk. They distinguish the objectives of supply chain management in two categories: (i) Customer value and satisfaction and (ii) Reactivity (the ability “to cope with the uncertainty of a rapidly changing environment” (Ibid., p. 116)). They conclude their paper with the suggestion that the use of the AHP model could enable managers to reduce the randomness of subjective evaluations and help them prioritize their objectives and perform an overall impact analysis.

Another article in the field is that of Kleindorfer & Saad (2005) which explicitly talks about events in relation to risk management in supply chains. The purpose of their article is to provide a conceptual framework that “reflects the joint activities of risk assessment and risk mitigation that are fundamental to disruption risk management in supply chains” (Kleindorfer & Saad 2005, p. 53). Subsequently, they provide strategic directions, actions and necessary conditions to outline guidelines for good mitigation practices. The article identifies several events that could potentially disrupt the activities of a company.⁴ It leads up to the concept of SAM, which they extend to SAM-SAC.⁵ These provide clear guidelines for risk management. For example, they build up the assessment and mitigation sections of the SAM-SAC approach around ten principles that give a structural approach to risk management in supply chains. Kleindorfer & Saad (2005) also acknowledge that “new systems are emerging for measuring and managing operational risks” (Ibid., p. 65) and that “disruption risk management is now finding its way to the board room” (Ibid., p. 66), advancing the notion of a link between ERM and Supply Chain Risk Management (SCRM). In the context of the present study, Kleindorfer & Saad (2005) direct attention to how supply chain events are perceived and managed, leading on to the intersection of SCRM and ERM.

⁴ These include “operational risks (equipment malfunction, unforeseen discontinuities in supply, human-centered issues from strikes to fraud), and risks arising from natural hazards, terrorism, and political instability” (Kleindorfer & Saad, 2005, p. 53).

⁵ SAM-SAC: Specification of sources and vulnerabilities, Assessment, and Mitigation, and the proposed Strategies with dual dimensions: Actions and necessary Conditions for effective implementation.

The intersection of ERM and SCRM

The academic discussions in both SCRM and ERM have created a vast diversity of interpretations and approaches but few studies have observed the intersections of the two fields. As already indicated by the articles in the previous section, the view on where SCRM belongs and what it should achieve is still heavily debated, but, as has been shown, there are links to ERM. Seeing this undefined nature of SCRM, Sodhi et al. (2012) decided to study the diversity in the area. Their investigation led them to identify three gaps that they address. First, there is a definition gap as to what SCRM is. Second, there is a process gap as to “inadequate coverage of response to risk incidents” (Sodhi et al., 2012, p. 1). Third, there is a methodology gap as to what empirical methods should be used.⁶ It seems like SCRM might be the missing link that we have been looking for bridging ERM and SCM. However, Sodhi et al. (2012) leave this question unanswered only acknowledging the need to further conduct investigation in the area to figure out the actual usage and definition of SCRM. Conceptually, SCRM is an answer, but there is no model or framework to cover the need for studying inter-organizational interaction and analyzing observations, to highlight such arrangements.

In summary, there has been a surge in ERM, SCM and SCRM literature in recent years. The prescriptive frameworks that have emerged have tried to achieve consensus on the definitions and approaches to ERM, however, no such attempt has passed without criticism. Notably, Power’s (2009) critique constitutes a milestone in the development of ERM understanding. Quantitative studies have identified a few indicators that point toward which companies implement ERM and how efficient the systems are. However, in order to investigate operations, we need to look at qualitative studies. These exhibit that the operations of ERM can differ greatly between firms. In the SCM and SCRM fields, we have observed a similar surge in interest, which is visible in the recent development of frameworks that often link risk management with specific events (e.g. Kleindorfer & Saad, 2005). Despite that some attempts have been made to study the intersection of SCRM and ERM, no solid model to approach operations has been provided.

⁶ Their research is divided into three parts. The second and third parts consisted of a focus group and a survey respectively. From this research Sodhi et al. (2012) found that their notion that these gaps exist is shared with the respondents (Supply chain management researchers and risk management scholars). They also found that most respondents (33%) defined SCRM as either *dealing with supply-demand stochastic (probability)* or (31%) as *dealing with risk within supply chain operations*. More than half (52%) consider SCRM as a *subset* of SCM. Last but not least, SCRM was by most (74%) considered a *subset* or *extension* of ERM.

2.2 Conceptual framework: Introducing the analytical backbone

Previous research suggests that an appropriate model for investigating our interest in ERM and SCRM intersection could be the concept outlined by Arena et al. (2010) based on the paper by Rose & Miller (1992).⁷ Through their interpretation and adaptation of Rose & Miller's (1992) arguments, Arena et al. (2010) have extended the framework to comprehend controlling at distance in a corporate environment, specifically in the setting of management control. They have translated Rose & Miller's (1992) argumentation into three distinct areas of analysis which they subsequently implemented to analyze and evaluate the ERM systems of the case companies involved in their study. These three areas are; risk rationalities, uncertainty experts and technologies. The central idea to Arena et al.'s (2010) paper is that ERM systems could affect and get affected by those three factors in different ways, even in companies with similar characteristics.

Risk rationalities according to Arena et al. (2010) is the process of “how uncertainty can be conceptualized into risk” (p. 660). It encompasses the approaches, attitudes and sentiments that individuals possess within the entity toward formulating and working with risks. For example, Arena et al. (2010) observed a firm where ERM was rationalized as a system imposed on them from outside that they needed to carry out in order to live up to the external requirements, whereas another firm thoroughly connected ERM with strategy and emphasized benefits that proper ERM implementation could have. Rationalization may thus have deep impacts on how ERM is used and developed in the company.

Uncertainty experts are, according to Arena et al. (2010) “corporate roles involved in controlling uncertainty” (p. 660). These individuals occupy the key positions for working with risk formulation. Who and how many they are, what background they have, what additional duties they have and how they are referred to by others may have impacts on how ERM is embodied. A manager specifically hired to work with ERM may, for example, mirror

⁷ This paper discusses the issue of political power and *governing at a distance* in a social context. The authors argue that the problems related to the aforementioned issue are dependent on what they call as apparatuses (i.e. technologies) for creating locales, entities and persons that will be able to operate in a regulated autonomy. This idea is based on the notion that power and governing should not be based on restrictions in the autonomy of citizens but rather on the creation of citizens that can bear a form of regulated freedom and function within it. A connection can be drawn between the social framing of governing at distance, and governing in a corporation setting, since one principal objective of implementing an ERM system is to ensure that the entire organization strives in the same direction, toward the eventual goal of reaching the company's strategic objectives. In this corporation setting, both sides of the supply chain (purchasing and sales) constitute touching points for the company to external actors in its network, and despite being crucial for the company's operations, these functions are often located far out in the organization.

a higher priority than adding the mission to managers that already are in the company and perhaps have other responsibilities since before. Even the manager title may reflect important pointers about how ERM is implemented in the company.

Technologies according to Arena et al. (2010) are “the complex set of practices, procedures and instruments enacted to accomplish the management and control of risks.” (p. 660). It refers to the tools that are utilized in order to set up, distribute information about, and develop the ERM system within the entity. Examples of technologies are computer software, documents such as reports or spread sheets, meetings, calls and workshops. The type, extent and frequency of tools used may also provide substantial clues to how ERM is treated and interpreted in the organization. For example, old, dispersed and infrequently used tools may show less dedication of the entity to ERM than new, specifically developed tools used with high frequency.

These three concepts, individually and in cohort can aid in developing a structured and nuanced picture of several aspects of the ERM implementation and has therefore been chosen to stand as the analytical backbone through the thesis. In their adaptation in 2010, Arena et al. used this framework to investigate the inception of ERM systems. In this study, the framework will be applied to analyze ERM perception of various parts of an organization with an already established ERM system. This should, however, not constitute any major issues since the framework is principally built to capture three aspects that are present no matter the maturity of ERM.

Despite the fact that there is not a unique definition of ERM, these systems (when established and developed) lie in the heart of the companies’ risk perception, conceptualization and management. Due to the existence of different layers, the need for governance and steering as well as the necessity for applying a strategy for being operable and legitimate, a company could be paralleled with a society. Thus, with this scope, ERM systems could offer a fertile ground for using the framework of people, tools and opinions for investigating the embeddedness or decoupling of ERM when focusing on the supply chains of a heavily industrial company. Supply chains are significant parts of industrialized companies and they entail a plethora of risks. Thus, events that take place in the external suppliers may have impacts on the established ERM system of the investigated company and this is something that potentially could be identified and captured by the ERM itself.

3. Methodology

3.1 Research approach: A qualitative single case study

To address the research question outlined in the introduction section, we have opted to carry out a qualitative in-depth case study. Our main stance for this decision is that the nature of our areas of interest are quite intangible. A qualitative approach is preferred in situations when the aim of the study is to research “how” or “why” a phenomenon occurs, and lies perfectly in line with our research question. Furthermore, we are not interested in investigating an objective truth, i.e. the objective outlines, frequency or extent of ERM and SCRM implementation, but rather how reality about ERM and SCRM is constructed in the perception of the interviewees, indicating an interest in the interpretation of these tools by its users. The principal reason for choosing to conduct an in-depth single case study was to be able to focus especially on one organization to develop sufficient understanding to comprehend the complex circumstances related to the areas under scrutiny. A further decision was made from the outset, to keep the case company and all interviewees involved anonymous in order to establish a more open discussion climate with the interviewees where they could express their opinion freely. Since we are interested in the systems per se, and not the company, we judged anonymization unproblematic and appropriate.

After having settled on an appropriate research approach and field, we commenced the process to receive access to a suitable case company. First and foremost we had to find a company already working with ERM. Most multinational companies have a sufficiently complex organizational structure to acknowledge the necessity of developing ERM, but in order to prioritize, we used number of employees as a proxy for organizational complexity. Since we wanted to look into the supplier side of supply chains, it was important for us that the company had substantial suppliers. Regarding suppliers, we were more interested in suppliers of physical products, rather than service providers because these supply chains could be more tangible. These criteria in addition to the insight that there is a lack of non-financial empirical findings within the field of ERM led us to deem manufacturing and industrial domains appropriate industries for our case company. We hence narrowed down our list to only include such companies. An additional criterion that we wanted to fulfill was that the case company should have a mature ERM system. We define a mature ERM system as one that has been in existence for at least five years adopting the definition of Mikes &

Kaplan (2013). Having narrowed the selection down according to these criteria, we began to contact the remaining companies to evaluate the potential access. Once we had ensured that the minimum amount of interviewees had been secured in the company, we moved on to the subsequent step of empirics gathering. A brief introduction of the company along with its ERM and supply chain functions is provided in the next part of the method section.

Having the aforementioned theory from section two as basis, we designed our interview guide.⁸ The questionnaire was comprised of basic questions in four areas that would touch upon all issues of interest, however, leaving room for flexibility and customization of the interviews based on each interviewee's background, position and flow of the conversation. The reason for this approach was to find an interesting storyline from the interviewees and their interpretation, instead of imposing a closed questionnaire, which would limit them when narrating their stories. In order to secure access to the company and each individual, the guide was sent to all interviewees after they had expressed their interest to participate in the study and before conducting the interviews. The semi-structured nature of the sessions gave us the ability to lead and steer the discussions. The duration of the interviews varied between thirty and ninety minutes depending on interviewees' time constraints. Both authors were present in all interviews with mainly one having the role of the first interviewer coordinating the conversation and the second being the auxiliary interviewer, taking notes, observing interviewees' reactions and keeping track of time. The auxiliary interviewer could also pose questions when deemed necessary in order to cover areas missed by the first interviewer. In total 15 interviews took place, out of which 11 were face-to-face interviews, 3 interviews conducted through Internet by using a computer software, and 1 interview took place by using cellphone. The number of interviews was determined by the respective number of people whose positions were relevant to the subject of this thesis. In most cases, interviewees kept referring to each other, when asked about people that would be relevant to include in our study. The interviewees share one common characteristic; they are all in managerial positions. In all face-to-face interviews, we visited the company's premises in Stockholm and travelled twice to another city. The reason why the rest of the interviews did not take place face-to-face was mainly that the interviewees were located in places where access was not feasible (e.g. outside Europe, cities far away from Stockholm). Out of 15 interviews, 13 were recorded, after it was specifically requested by two of the interviewees not to be recorded. After each interview the authors had extensive discussions about the content of the sessions and

⁸ See Appendix B

meticulously analyzed the observations. From the 13 recorded interviews, 12 were transcribed ad verbatim and the transcripts were thoroughly read by both authors. Regarding the one interview that took place by phone, a couple of technological malfunctions occurred. First, the interview could not take place on speaker, due to bad acoustics in the room, resulting in a poor recording and secondly, the recording device stopped for 1-2 minutes. However, after we concluded the interview and realized the sound quality, we immediately took extensive notes and again, discussed our observations. Furthermore, we transcribed all parts of the interview that were audible. Pertaining to the two non-recorded interviews, extensive notes were taken while they were conducted, and immediately after the interviews were concluded, the authors discussed and made notes based on the material and observations. Two of the interview sessions included two interviewees at the same time. Apart from conducting interviews, we had access to some documentation and presentations related to the topics of interest that were not publically available. This material was related to the company's organizational chart, the applied Internal Code of Conduct, the internal ERM procedures and the supplier management system.

We have interviewed 15 managers in total, 7 men and 8 women. In order to accurately present the company in connection to our research, we have divided the company in two levels and one function. This categorization is not based on the company's organizational chart but rather depicts the company in connection to the processes followed in the ERM system and the supplier management. At the top of this division we find the group level. The interviewees in this category all work in group functions, many of which are situated at the company headquarters. They, in general, have more of an overview perspective of the company and are quite far away from the company's operations, which take place in units under the group umbrella which will be referred to as Company Units (CUs). References to specific CUs in the empirics section (e.g. CU A, CU B) do not correspond to certain CUs. As a consequence, CU A could indicate different CUs in separate quotes. The reason for choosing that approach was to secure anonymity and vagueness. Six interviewees belonged to the **group level** category.

The second category consists of managers on a CU level that do not have direct involvement in working with suppliers. These managers are in general closer to the business operations than the group level managers, but their specific duties vary. However, they all have in

common that they work extensively with risk management in their everyday operations. Five interviewees belonged to the **CU level** category.

The third category also consists of CU managers, but, in contrast to the second category, all the interviewees in this category have direct involvement in the supplier side of supply management. Hence, this category is the touching point between Omikron and its external suppliers and the interviewees here have a close relationship to operations related to suppliers. Four interviewees belonged to the **supply chain function** category.

In order to maintain a sufficient level of anonymity, the interviewees will be referenced solely according to level and whether they have direct involvement in ERM, supply chains or none of those two areas. In order to distinguish between the anonymized manager titles, they have been ascribed with numbers. These numbers were attributed randomly and not according to how they have been listed in Appendix A.

3.2 Introduction to the case company: A manufacturing firm with a proud history

The company around which the present study revolves belongs to the manufacturing sector. It was founded in Sweden and has had an active presence in the country for more than a hundred years. Nowadays, Omikron, as the company will be referred to henceforth in order to maintain its anonymity, operates globally in more than a hundred countries, and consists of more than thirty thousand employees worldwide. Omikron is a listed company, presenting a turnover of approximately one hundred billion Swedish Kronor, according to its Annual Report. However, during the years that followed the financial crisis of 2008 the company has been through a financial downturn, facing difficulties to reach set targets.

According to the Annual Report, Omikron implements an ERM system in order to “manage the risks in achieving the company’s objectives and to ensure optimal leveraging of potential opportunities”. It is intended to assist in strategic and operational decision making in the face of change. ERM was introduced in the mid 2000’s which means that it has been in place for approximately ten years prior to the empirics gathering period for this study. The ERM process in Omikron consists of six different steps that are repeated in each reporting cycle.⁹

⁹ These steps are: Risk identification and evaluation, Risk treatment, Coordination and communication, Follow-up, Stakeholder demands and expectations, Business objectives and setting the strategy.

Based on these steps, an action plan is set up to accept, reduce, eliminate or transfer risks or take advantage of possible opportunities. Last year, two consolidated ERM reports were delivered to the Group Executive Management and one year-end report was submitted to the Board Audit Committee.

According to Omikron's Sustainability Report, external suppliers comprise a significant part of the organization's production. In terms of production, the organization is diverse. The CUs have significantly different production lines from each other due to the fact that they address different customer bases. Therefore, they are mainly dependent on different suppliers. However, there are areas that constitute common ground for all CUs. Due to this dependency on suppliers, Omikron applies a certain Supplier Code of Conduct for managing supplier relations as well as performing supplier audits for controlling them and assuring that the Supplier Code of Conduct is followed.

Omikron's Supplier Code of Conduct is formally applied on the first tier of suppliers and entails four areas. The first area is labor and human rights, where the suppliers are required to comply with legal requirements and international labor conventions. The second area is anti-corruption and bribery, touching upon the issues of transparency and competition regulations when doing business. The third area is health and safety, which focuses extensively on safety factors in the business environment of suppliers. And the fourth area is environment, which touches upon issues of waste management and a number of precautionary principles. These four areas are connected with a "red thread" that goes through the Code of Conduct which is called the management system section. That "red thread" pushes for the continuous improvement of the code and aims to fortify the commitment between Omikron and its suppliers to work proactively for meeting those requirements. Regarding the supplier audits, Omikron applies a certain process through its purchasing function. The suppliers are evaluated on a yearly basis, based on two criteria; country of operations and category of product. Audit plans are built on these evaluations, following specific internal guiding principles and they are executed either by Omikron specialists, certified external auditors or a team of both. Meetings with all involved parties take place at the end of audits in order to verify and announce the findings and then, the parties proceed to establish action plans for solving any discrepancies. Finally, Omikron and the suppliers reassess the progress of the improvement plan, based on evidence provided by the suppliers.

4. Empirics

4.1 The Company: A complex conglomerate facing a new time

“It takes roughly six months to learn our organization.”

- *CU Level Risk Manager 1*

Omikron was divided into more than two different company units (CUs). A distinctive feature of the company's units was that they had different production lines and thus, they addressed entirely different customer bases: “It is more of a conglomerate of business” (Group Level Risk Manager 1). Taken together the various CUs maintained thousands of suppliers. Furthermore, they were independent and cooperated with different suppliers:

(There are) not many occasions where we could meet each other at the supplier because one [company unit] is one business, another [company unit] is another one. (CU Level Supply Chain Manager 2)

In certain CUs, there was an additional division of the organization into sub units with brands aimed at various markets and customers. These sub units addressed customers directly, but they sometimes varied to an extensive degree in terms of size and customer profile:

Here you have [sub unit A]. That is the biggest [sub unit] within [CU A]. They are three times as big roughly, or maybe four times as big as the other ones. (CU Level Risk Manager 1)

Even though these sub units were part of the Omikron group they maintained considerable freedom and acted as competitors on the market. Different sub units within the same CU could compete on the same market:

We also have [sub units] that are competing on the same market and we don't want to mix them because we must have [them at] arm's length. [...] They are still competitors. So, we don't want to show each other's risks and weaknesses. That could be on the borderline with non-compliance to competition law and legislations. (Group Level Risk Manager 3)

This particular organizational structure had a number of implications on the way Omikron operated:

Each [CU] can have their own governance responsibility to make their own calls in strategic questions or it could be run by the group management team so to say with the CEO to decide. (Group Level Manager 2)

The same person acknowledged that there was a discrepancy, both in terms of understanding and way of thinking between different company levels where top management had its view of the business which might not harmonize with the operational staff. Excessive top-down imposing within a diverse company such as Omikron, could create friction between the group and the CU:

We felt with top management that we have their view of the challenges we have going forward, and they have their guys in the reality that is close to the business and close to the customers or work in the factories, they have a different view and with that gap between management and the employees on the floor [...] they don't talk the same language and they don't really see the world in the same way. [...] If you create too many things that are created from a central perspective and push down in the organization. It is quite tricky to do that in an organization that is so diverse. (Group Level Manager 2)

Group Level Risk Manager 3 expanded on the diversity between CUs, mentioning that there is a presence of different maturity levels of risk management processes in the CUs. Some CUs did not have formal processes to the same extent as other, more progressive CUs did. Even though there were differences between the CUs, there was ongoing communication at the same time on certain issues, for example sharing best practice. This was done through meetings, informal calls and various software:

We (peers in different CUs) meet at least one time a month. And then we try to exchange with others, what they have done and so on. [...] But we are trying to work more and more together, so I know that [CU A] has done a really good job. So they have a [...] portal for suppliers. So I talk to our purchasing and said "Can't we have a copy-paste on this?" And so she's meeting them and see if this could be something that [CU B] is using. (CU Level Risk Manager 1)

CU Level Manager 1 also acknowledged that there was a substantial degree of sharing within functions between the CUs explaining how the Environment, Health and Safety Manager of one CU was heavily involved in helping another CU building its systems:

Within the functions there is a lot of cooperation. [...] There are a lot of groupings working with the same kind of procedures trying to find the best practice or steal with pride or whatever. [...] If you take our [CU A] environment, health, safety and risk manager she is also driving that process for the [CU B] because that's how we operated in the past and it's a known need for [CU B] to build a separate organization with the same kind of competence and so forth.

In terms of best practice sharing, CU Level Manager 4 mentioned that they sent rather formalized documents for communicating their risk management approaches:

It's a simple two pages [document] where usually you use some pictures and explain what happened and also what actions we have to do to eliminate and reduce the risk.

Another manager also pointed out that they have formal ways of communicating best practice in relation to risks:

We have category teams and boards that will agree on purchase strategies. These are formal procedures. (CU Level Supply Chain Manager 4)

However, there was some disagreement among managers as to how extensive best practice sharing was. For example, CU Level Manager 3 stated that the extent could vary quite a lot between functions, and expressed some dissatisfaction regarding the degree of formal best practice sharing:

We're really bad at that. Lessons learned... Best practice. I don't think it is driven in that way. And that's also one of the things that I miss from my previous job.

The fact that Omikron was a company with an old heritage had, according to several interviewees, had implications on the company's processes and tools. The usage of old and uncustomized software sometimes made working with the systems cumbersome and time consuming:

We don't have common systems. Every country has different systems. We don't have a good platform for picking up information. So if I want to know the biggest ten customers in August it will probably take one week to consolidate that information because it is based on phone calls and excel spread sheets. (CU Level Manager 3)

The same manager went on to explain that Omikron, and some CUs in particular, were strongly driven by their production mentality which, in some cases, could impact the way they work with other processes. Omikron's background as a manufacturing company was seen to affect other company processes, such as finance:

It's definitely a production driven entity. That means that production has been the focus and you probably find most of the processes in place within production. [...] probably we in finance don't have the processes required.

However, as CU Level Supply Chain Manager 4 pointed out, there was a movement in the company at the time of the study to harmonize and integrate old systems into one company-wide system:

We are right now changing our IT platform, implementing SAP instead of in-house developed main-frame systems that we have today.

4.2 Enterprise Risk Management: Preparing for risk

“We are working very much more now with these questions than we ever have.”

- CU Level Supply Chain Manager 2

4.2.1 Group Level: The umbrella

In terms of what frameworks the ERM system drew most of its inspiration from, nobody could give a certain answer, since they were not involved at the time when the ERM system was first introduced, but Group Level Risk Manager 2, who had been heavily involved in working with ERM lately said that:

That time I think it was COSO and I think that we really try to take the best that is available. We very much like the ISO 31000 approach but we still tailor it to the needs and also need to be able to tailor it to our specific [CUs] and business. So, we wouldn't really say we go one rule versus the other, like a COSO shop vs. an ISO shop. We like to look across and pick the “cherries”.

While Omikron operated as independent CUs, it was on a group level that company-wide tools and systems were developed. The ERM group function, formally within the group legal, comprised ten people located at the headquarters and in key areas of the business. Embedding risk managers was seen to be an important way of disseminating and operating the ERM system:

The ERM function works very strongly with a team of risk managers who are in the business. So, we haven't created this kind of function overhead because we believe that the risk management work needs to happen where the risks arise and therefore, we use these embedded risk managers in different parts of our organization to actually support the risk assessment, support with risk response activities, support management tracking, but then that is the responsibility of business management. So, the business managers perform the action, and the people responsible for ERM provide drive and orchestrate the process. (Group Level Risk Manager 2)

While a separate function working across the organization, ERM was seen to be closely linked with business planning and to be tailored to particular CU needs. Notably, this meant that the level of risk would vary:

The ERM process goes very much hand in hand with the business planning process and of course it's very diverse. [...] It depends on the market situation they face in each [CU] and trends related to their business, competition movements, acquisitions, divestments and so on. The tolerance varies and the risk appetite varies in that way. You can never find one risk appetite for [Omikron] group. (Group Level Risk Manager 2)

The division between the group and the CU levels was a matter of more strategic direction setting at the top and more operational duties on the CU level:

On the group level there is understanding of the strategic direction. It's not like the information would not flow up or that the information flow stops at the [CU]. No, there is absolutely discussion on these topics that go all the way up, to every layer of our corporate governance. So, you could imagine that as the umbrella of the execution and then, making sure that there is proper integration of all those things happening at the [CUs]. (Group Level Risk Manager 2)

Thus, seeing that the group level had a strategic outlook, Group Level Risk Manager 3 went on to elaborate on how ERM was linked to strategy, whereas the internal audit function had a more detailed scope:

The ERM is more at the strategic (level). [...] while [internal audits] are more on an operational level. [...] [Internal audits] are much more in the details but they do still have a conversation (with the ERM function) [...] ERM is more like at a higher level. [Internal audits] go down much more into the nitty gritty details.

Even though there was a widespread perception that the ERM system was linked to strategy, working in this manner in an informal way would be prevalent in the company even without the formalized ERM system:

I've talked to [Enterprise Risk Manager] about this, I mean, that (link risk to strategy) is what we do! Even if we didn't have an ERM system, that's what we do all the time! All the prioritizations that we do are consciously or unconsciously based on some sort of risk assessment. I mean, if we say that within [CU A], where I used to work, safety is a number one priority, that's based on some sort of risk assessment [...] So, it's always based on a risk, whether it's in an Excel file or formalized, because when I was talking to [Enterprise Risk Manager], she was like, "people don't focus on risks" and "we don't have an ERM system", but it happens every day, every minute, every decision is based

on risk, even if it's not so formal. [...] I tried to calm her down a little bit, because I think she only saw the formal side of it. We can completely improve when it comes to more formal ERM system, but that doesn't mean that we suck at handling risk. (Group Level Manager 1)

However, Group Level Risk Manager 3 contrasted this statement by emphasizing the essential need of having a structured and formalized ERM system intertwined with strategy, and refuted the notion that common sense could replace this structured approach:

It's not common sense because it has to do with company strategy. You have to set the priorities and the objectives at group level. From business level you have to understand the overall group strategies and build sub-strategy and objectives that are in line with the group strategies. Then you sit down and identify what kind of risks can actually stop us from reaching those strategies. And this is something that you need to work on and this goes all the way down to the people that are either putting numbers in a computer or employees on the production floor. So, it has nothing to do with logic or people's logic. It has to do with the direction of the companies and also looking at the current situation, but also at the history. It is key getting professional input from people who are competent with ERM. Managing ERM at a global level demands strong processes and continuous follow-up.

The extent to which risk culture had had an impact was, however, disputed. ERM was seen as a tool that should not only be interpreted through the techniques used, but also as a culture penetrating the company. That reinforced the urgency that ERM served a purpose and was not a superficial procedure:

The reason why people in this organization don't understand ERM has to do with the lack of risk thinking culture. Because they don't fully understand ERM, they don't understand the purpose within. They do it once a year and they put it in the drawer. What really ERM is [...] is not only to map the risks as they are, that's just the very beginning of ERM. [...] And the other part is of course that this should be a very live document. This should always be up and discussed how the current situation looks today and if the actions are good enough. It is not a paper product that you do once a year, because it's all linked to your business processes [...] they (referring to other company) actually link ERM to sales performance and we don't do that in [Omikron] because, you know, "it's a stupid map". [...] So, I would say the risk is that the organization currently can leave ERM work because they will focus on selling more products. "ERM, we can do another time. We are hired to sell products". In my eyes they do not fully understand ERM. (Group Level Risk Manager 3)

Acknowledging that there was a lack of education within Omikron, Group Level Risk Manager 3 went on to explain that this learning should come top-down and work its way through all company layers:

Of course employees need to (understand ERM). I would say, it often comes down to education of our employees for them to be able to understand ERM as a tool, and it starts with tone of the top. [...] If the top management in that [CU] don't believe in that, it's never going to happen. So, what you need to do is not only just push in an Excel sheet or a system, you have to build the processes around these systems. And processes mean also how you identify, manage and feed the risk information, how you define the meetings that you are actually going to discuss ERM and how ERM should be understood and implemented all the way down to the person who actually stands on the production floor putting bolts and nuts into our machines.

However, not all managers agreed on what exactly ERM was and how it should be used. In certain cases ERM was framed more loosely as a phenomenon that differs depending on personal opinion. The approach to working with ERM had then been referred to as more of a culture trait and less of a system:

When you talk about ERM my feeling is that people have their own definition of this. It's not one definition thing. [...] For me it is like tools to manage risk. That is process and methods to manage risk. [...] My feeling is that it is implemented, but not in that way you think of when you read (about ERM). [...] ERM for me is a culture or way of working that you learn from the organization and the process that you might have is not followed 100%. So, yes I think that I use risk management a lot but in a quite constructive way from an [Omikron] perspective, but I make it structured in my way and I evaluate this all the time when I make bigger decisions. [...] I think that it totally depends on where you work in [Omikron]. So, as I said, it's not that structured from my perspective. But I don't see that as a problem either. [...] We have so many other things that are more important than this to be honest. Because this is a huge problem if people don't have this that you call common sense, or I call common sense, [...] but my feeling is that we have that in our culture. (Group Level Manager 2)

However, another manager contradicted this, by elaborating on the merits of having a structured approach when working with ERM, which could be a helpful tool for visualizing and prioritizing risks:

Sometimes it's good to have a clear system. It highlights awareness and accountability, and that's not necessarily bad, I think. So, just because I work with these things all the time, which is good, that doesn't mean that we don't need a formal system to follow up.

[...] Because it helps us prioritize. [...] So it creates some sort of visibility and foundation for making priorities. (Group Level Manager 1)

When addressing the topic on what recent changes had been observed in terms of how Omikron worked with risks, one Group Manager remembered a particular event which included a serious accident that increased focus on risks within the organization:

There was a serious incident at [CU A]. [...] That was really the starting point for the whole safety initiative, and safety first, safety culture thing, and a tremendous job has been done within safety at [CU A]. So, of course, that just can't happen ever. (Group Level Manager 1)

4.2.2 Company Unit Management Level: Diverse business – Diverse ERM

As depicted in the method section, Omikron consisted of a set of diverse company units in which the vast majority of the company's operations took place. Regarding the ERM system, this was the level where a lot of the hands-on ERM mapping was done, but the CUs had substantial liberty in terms of how they executed their ERM work:

I know we do it in different ways in the group. We (this CU) start from the [CU] and say "ok, what is our risk as a [CU]" the consolidated way of looking at it. And, we say "ok, (these are) ten or fifteen major risks that we need to work with". I know that [CU A] is working in the other direction. [...] So it is really bottom-up. But we do it top-down. (CU Level Manager 3)

ERM was not delegated to a specific function on the CU level, but included in the responsibilities of other managers, such as the Environment, Health and Safety (EHS) Manager who was considered to have similar tasks:

We don't have a separate organization for ERM. It's part of our process. So, if I take how [CU A] is organized we have the Environment, Health and Safety Manager also responsible for enterprise risk because it's a lot of the same sort of emergency actions that need to take place. We need to have certification and it has a very close link also to the quality work that we do with the processes and certifications. So, those two work close together. (CU Level Manager 1)

Most interviewees considered it important that the ERM report went down several layers within the CU in order to properly identify and manage risks. It was also perceived as a process that needed to work both top-down and vice versa simultaneously:

I have been looking into what we have done before and then it was one ERM report for the [CU] on the management for [CU A], the management team. But I felt that that is too little to do. You need to go down in the organization and it needs to be both from the top and from the bottom, you need to find risk in a better way. (CU Level Risk Manager 1)

Expanding on how far down in the organization the ERM workshops should go and how often they should be performed, an interviewee stated that it depends on the particular operations of the functions. The interviewee also emphasized that the ERM process must be driven by every level and not imposed from the top:

It was an activity done on the top level in the [CU] and it stopped there. So that was the first thing I looked at and was like "you can't do it on a [CU level]. You will never cover (everything) if you list 46 risks on a [CU] level you will not get all the risks that could hit you". So you need to go down to the [sub units] and it's important for the [CU] to know their biggest risks. [...] For me it's minimum to do it on an [CU A] level and then one step down [...] and then I said "it's up to you if you want to go further down". [...] I will do the first [workshop] and I will not do the second. [...] They should have one responsible person for each of these functions that does this. And then they decide after we have helped them with the first report, how (much) further down they want to go [...] I would like that they figure it out themselves. [...] What I have done so far for this year is to get rid of this one report that we update two times a year. That's not working. To get it more alive. (CU Level Risk Manager 1)

In terms of how ERM was perceived, one interviewee emphasized that its main objective is to visualize risks and make them tangible. The same manager also compared ERM's broader perspective to internal controls:

From my perspective ERM is essential in finding or at least make the risks visible and make the organization and everyone aware of the risks in a structured way. ERM from my perspective [...] is much broader than internal controls. I think that internal controls is a good way to cascade ERM into the organization and make ERM more obvious and concrete. (CU Level Manager 2)

CU Level Manager 1 stressed the point that ERM is useful to identify and manage a wide range of risks:

It's the follow up and taking actions and putting processes in place to ensure that we are aware of and handle our risks from a company perspective, business risks, operational, risks of anything from fires to competitor threats or whatever it could be.

In terms of what actions were actually executed in the CU, the main input came from workshops that were carried out in various functions within the CU. The information from these workshops was then turned into Word documents that were subsequently compiled by the Environment, Health, Safety and Risk Manager into an Excel document which was passed on further up in the organization. On the topic of facilitating workshops CU Level Manager 3 stated:

It was a Power Point prepared for the group function, where [Enterprise Risk Manager] actually went through it with me and trained me. What is this? What should you focus on and how to work. How to prepare the group working to this one. So we started always with this one, and I did it smaller for our [CU]. So we explain, what is it? Why are we doing it? What do we have to do? We always separate people in group teams because we don't want to put the similar thinking people together, so in our case we separate for example the presidents, they are not allowed to be in the same group. We put one supporting function, HR communication, finance, with one of these guys, so they try to cover different parts and not only their aspect.

The Excel document consisted of a spread-sheet with titles such as vulnerability, triggers, consequence, current severity, probability, improvement actions, target and who is responsible. However not everyone was completely satisfied with the lay-out:

I'm not so fond of this template, because you want to write a lot about improvement actions but it's so small to write there so I use this one also for the comments (pointing at other column). (CU Level Risk Manager 1)

In another spread-sheet in the same Excel file, the risks were listed in a matrix according to probability and severity, and risks outside of the acceptable area received extra attention in order to move them into the acceptable area:

We rank them (risks) based on [...] the severity, usually cost wise. If that engine goes that would cost this and this much. And then also the probability of it happening, and if you multiply those with each other, then you get a sum and then that's usually what we go for. If it's really high severity and really high probability then we need to do something about it. Additional to that, we also include reputation in the ranking. (CU Level Risk Manager 1)

The Excel file was, however, not the only document produced. Several similar forms of documentation were also made. This diversity, and the degree of involvement, also received some criticism about its effectiveness:

We have three different templates. It's a lot of copy-paste. But this is only the first Excel file and then it's another Word document, (which is) similar. It's much more text in this one. So, I don't think it's really the best way to do it. [...] It's not a criticism to [Enterprise Risk Manager], it's more that, we've been thinking "how should we do this?" They want this update roughly four times a year. How should we do it in a good way, because sometimes they (people responsible to provide input to the excel document) answer, sometimes they don't. How to get this more alive? And get them more interested? (CU Level Risk Manager 1)

The tools that were used to work with ERM within Omikron had mainly been developed by an Enterprise Risk Manager in the group function. This person constantly returned in the discussions with the CU level managers, since that manager had been in charge of explaining and educating ERM to them:

We have a great [person] in the group who has been helping me a lot to understand this process, because I was not really understanding it from the beginning, so I said "Why do we do this?" "I would like to do it through the internal auditing" in my finance tiny head, we should do it through the internal audit, but she was really supporting me and helping me to understand and I do see the way of working in this proactive way. (CU Level Manager 3)

The Enterprise Risk Manager was also the main source of feedback for CU Level Risk Manager 1 who stated that "I put everything in a database, and then [Enterprise Risk Manager] gives me feedback if it was good or not". CU Level Manager 3 mentioned that the ERM system had been really dependent on specific people and not entirely integrated in the company culture:

It (ERM) is really manual, and for me it has been people dependent in [Omikron]. [...] I think it should be embedded in the business, but how to do that will be a struggle in certain parts of [Omikron]. [...] We're actually depending on who is handling this because if it was without [Enterprise Risk Manager's] help I would never make this awareness in the functions. [...] [Enterprise Risk Manager] is really supporting, pushing and taking and things like that. It's really good. For me it has been the person to support me, to put this through the organization. Because I think that the difficulty in this business is actually to put the awareness (in people's minds).

As stated above in the method section, Omikron has had some difficulties in reaching their targets for the last few years, and that might have had an impact on the ability to drive the ERM education to the entire organization. ERM was perceived to be better received within companies with good results and more money and time to invest in the ERM process:

You have seen our numbers I guess, our official numbers. We have not been doing great. [...] It's a very different way of working with risk management in a company that has a good result, good sales, and a company that doesn't have a good result. I think that's what I'm suffering from. [...] I think the struggle to get the attention for this kind of questions and supporting functions is always much more difficult than in a company doing great where you can afford to do these with an extra system, with an extra facilitator with an external consultant. [...] In our case we're struggling with the results, the resources, with the priorities and then on top of that we have to do this and I really understand that we have to do it, but again, it's not part of our mentality to get there, we would need extra money to do that. (CU Level Manager 3)

Several managers mentioned various events that were found by using the ERM tools and other examples that contributed to a better understanding of how to work with risk management. On the topic of actions taken to risks captured by the ERM, CU Level Risk Manager 1 showed that the ERM was used to identify that a distribution center (DC) should not be closed, in contrast to what was initially decided:

It was when we looked at the DC set-up and then we did an ERM workshop and saw that that is one of the higher risks, and should we really have the set-up that we have today? And then you go in to see that the risk is too high to have that amount of assortment in one DC, so if you have a transportation blockade or a strike or Eyjafjallajökull that happened some years (ago). Then it's not so fun. So then it was active decision to lower this risk. We have lowered the risk by dual IT sourcing in separate rooms and we have installed a diesel generator for power supply. We also acquired a company that has a DC in Europe so by these actions, we have now reduced the risk to an acceptable level.

EHS work, an area which was closely linked to ERM in Omikron, was also carried out in the suppliers, but to a limited extent. However, this field was identified as an important issue for improvement to mitigate reputational risks:

To be honest we are not so good at that (EHS in suppliers) and we've been working with purchasing and said that "hey, we need to improve here". And we have started up one project that is called EHS product compliance because that is basically what it is. A lot of struggling. Our purchasing department is now contacting 1,000 suppliers based on the conducted risk assessment. (CU Level Risk Manager 1)

Relating to the EHS issues above, CU Level Risk Manager 1 pointed to another EHS issue that had arisen in a customer. This event provided input in the way they think about risks today:

[Omikron] started up there to have more focus on EHS questions and especially environment. [...] I think that we started to say that we would work more for this and we were more seen out in the newspapers and so on, and we commented that we wanted to focus on this and that we tried to push ourselves, and then it hit back.

CU Level Manager 3 lifted one example of an event about how they worked with scrutinizing balance sheets due to a past event that revealed a potential risk:

(I check for) fixed assets in case they have a goodwill, it's very rare that they have goodwill, but intangible assets, fixed assets, accounts receivables for sales units, accounts payables for production, work in progress, service work that has been started but not invoiced – that can be sitting in the balance sheet for a long time. [...] The reason why I started it was because of an accounts receivable that should not have been there, or provided for according to the rules of the group.

CU Level Risk Manager 1 also reminisced another event where a site had been closed down without involving the purchasing function before. This resulted in poor delivery to customers. However, Omikron has learned from this event when working with risk:

They (Omikron) closed one of the sites. And one thing they didn't consider that much, or should have addressed better maybe, was the involvement of purchasing in that process, so if you want to outsource something, you need to involve purchasing before you announce that you are closing these sites, and to find new suppliers, because otherwise it's a risk. And then that was actually that customers didn't get their products. It happened, it wasn't a risk anymore. And that, I think we have learned from. You can see that in here (in the ERM).

4.2.3 Supply Chain Function: The gate to external risks

The Supply Chain Function consisted of individuals involved in direct contact with the suppliers, or in surveilling the supply chain, i.e. both purchasing managers and their managers. In case of an alarming event in a supplier, this was the function that would observe it first, and escalate it through the organization. In terms of risk, CU Level Supply Chain Manager 3 immediately referred to ERM showing that it is tangible to him in his daily work:

When it comes to reporting the risks, that's part of the Enterprise Risk Management that we do. We, the [CU] management team, list the risks we have and we say, "Ok, what's the likelihood of this to happen and what's the impact for that?"

CU Level Supply Chain Manager 2 made a direct link to the risks of daily operations when talking about ERM:

For me it's a lot about securing the supply. What kind of flexibility do you have down your suppliers' stream? So, then what options do you have if something would happen?

The perception of how the ERM was set-up resounded the statements of interviewees in other functions. For example, CU Level Supply Chain Manager 4 talked about the frequency and structure of the workshops, showing that it was performed on a managerial level to conceptualize risks:

We are arranging workshops in different management teams, at least yearly. We have an ERM workshop in the [CU A] management team, identifying risks and also evaluating how severe these risks are and how likely they are according to the model that we use within [Omikron]. We carry out risk workshops in [CU A] management team, and also in the other management teams within the company. In this way we can summarize, prioritize and mitigate the risks on a [CU A] level.

In terms of how they worked hands-on with defining risks, CU Level Supply Chain Manager 4 showed that they started from a strategy perspective:

We have templates to work with, and in the management, we started from the strategy. [...] So looking at the strategy for the [CU], we have more or less asked ourselves the question; "What are the risks that can jeopardize the delivery of our strategy?" Since we have a strategy to deliver, that is anchored within [Omikron] and the [Omikron] board, we need to get a better understanding of what risks could potentially make us fail to reach the target.

A risk management example of material replacement visualizes how they could reason when listing risks:

We have intention to build a category plan and that plan should also cover what the supply market looks like. How locked in to certain solutions are we? Of course it might be that you can change from metal to plastic for example so then it doesn't matter if there is a shortage of steel in the world. We go for plastics instead. That could be one part of securing it. Otherwise you might have to check what the second best source available is. What kind of relationship do we have with them (suppliers) if something happens? (CU Level Supply Chain Manager 2)

One interviewee saw the need of more support from the ERM function in order to efficiently work with ERM, however, risk management was seen as a natural part of everyday operations:

I would say that it's kind of a natural thing in the category management work to always consider how subcategories are more or less put at risk, but I would say that we can benefit from having more support, more ways of working in this. This is not in a really clear structured way on how we do it. I wouldn't say that the category managers are not doing it in a good way but I think we could benefit from having more of a process or some tools supporting. (CU Level Supply Chain Manager 1)

The opinion that ERM processes could be improved was shared with CU Level Supply Chain Manager 2:

I can say that we could do it more thoroughly than we do it today but it (ERM) is definitely something that we need to be aware of. What happens if there is a volcano eruption in Japan that destroys a factory at a supplier? What do we do?

The urge to start working with ERM was explained to have originated from the top, more specifically the former CEO. Not much drive had come from the owners according to the interviewees, but they could see an increased attention to ERM over the last few years:

From how I see it, it's something that is decided on an executive level that [Omikron] should be seen as the first, or one of the shapers in this area, in this kind of industry. [...] So, basically much of it I would say comes from the former president of the company. And from that, when he started to drive it, it has actually made a difference on the hands-on work. [...] I haven't seen that much drive from the owners. It's more or less that they are depending on us on how to find solutions. [...] So, just in the years we (referring to yet another manager as well) have been here, that's not too many years being an [Omikron] employee, 8-10 years, it has happened a lot and I would say it's the last 3 to 4 years. (CU Level Supply Chain Manager 1)

In addition, the implementation of ERM was seen to be a strategic move in order for Omikron to be perceived as a modern and progressive firm. The interconnection with strategy was claimed to have succeeded as it had become a natural discussion topic:

The strategic direction that is set by executive management saying that this is important, this is how we would like to be perceived as a company. [...] This is truly something that we put high up on the ranking of what we do. So, I also see effects that we talk much more about this now. It's on the same level as any discussion about agreements or pricing or costs or transports and so on. It has become a natural thing. (CU Level Supply Chain Manager 1)

One reason why ERM and risk management in general might have been less prioritized in the business was provided by CU Level Supply Chain Manager 2 who commented on the fact

that manufacturing and similar companies rarely receive as intense scrutiny by the media as other industries might:

If you are working for TV many people wouldn't know what [Omikron] is because we don't produce customer products. So, who will care then if there is [Omikron] steel in your [consumer brand] razor for example? Then you go after [consumer brand] in that case, not [Omikron]. But of course if you are producing consumer goods then you are more at risk of getting caught in these events.

As mentioned in the company part, Omikron is currently going through a big development to change the IT system. CU Level Supply Chain Manager 4 explained that this was discovered by using the ERM and linking it to the strategy: "We have used the risk report to get funding for projects. [...] Which now are part of the strategy." However, all the CU Supply Chain Managers have identified areas that they think should be addressed in the future in order to improve the system. One of them contended that it would be beneficial to develop tools for organizational learning, and for understanding of suppliers beyond tier 1:

I would say that they could make that more of a [CU A]-use tool to have examples for instance that are making it easier for let's say a new employee coming in this category manager role to easier take the tool and understand it how it's connecting to our environment with our products and the supply market that we are having in this company. So, that's how we try to work in every area more or less, that we build the processes and also build tools and instruction on how we should do different things. [...] But the thing that we could be better in, is to understand the second or third tier (suppliers) behind. If there are some issues down there. (CU Level Supply Chain Manager 1)

Expanding on the issue of understanding suppliers beyond tier 1, CU Level Supply Chain Manager 2 showed that suppliers may be connected further down in the chain:

So, we don't know for example if [colleague] and I are buying similar products. There might be a connection downstream that actually we are dependent on a single source here because they are delivering to all the others. So, that one hasn't been identified I would say. That's a single source on the third tier supplier for example. So, we could do more in going further back downstream.

For CU Level Supply Chain Manager 4, the main suggestion for improving the ERM system was revolving around its connections to strategy and that it should not come as an add-on:

It is important to get the ERM more aligned with the normal strategy work so that ERM does not come as an addition, it needs to be integrated to get in focus.

4.3 Supply Chain Risk Management: Navigating in an ocean of suppliers

“So far we have been lucky. We haven’t had a major breach for quite some time.”

- CU Level Supply Chain Manager 3

4.3.1 Group level: The lighthouse of Omikron’s operations

Despite the fact that the group function did not hold the first role when it came to strategy in supply chain relations and the operational activities taking place in this context, it still remained a source for providing guidance in supplier related issues to the CUs. The people interviewed from the group level had different degrees of knowledge regarding Omikron’s supply chains. Regarding why the suppliers’ behavior became a topic that attracted Omikron’s attention, Group Level Supply Chain Manager 1 referred to the mutual dependency that existed between the company and its suppliers as well as to the issue of having the ability to create sustainable supplier relations: “We need our suppliers, and they probably need us. So this is an important background”. In terms of how risk assessment and identification was done, the group level provided guidance and developed the tools but the actual implementation was carried out in the purchasing functions:

The risk assessment is performed by the purchasing organization, so they have the main responsibility for performing that. We help them with developing the tools¹⁰ for it. (Group Level Supply Chain Manager 1)

Exactly how the purchasing function carried out the risk assessment was, however, not completely known by the group level managers:

We also have a lot of different areas within supply chain that you can see as risk. You can start with supplier selection. Of course this is something that sits with purchasing. They do supplier audits. I am not sure actually how they do it but they have a Supplier Code of Conduct and they do supplier visits. [...] We are not involved in that because that’s their job to select. What we do is that we can audit that they have done their job,

¹⁰ According to Omikron’s Sustainability Report the risk assessment of suppliers was based on three pillars: the country where the operations took place, the category in which the products belonged, and finally, the knowledge that the company had pertaining to its suppliers. When looking at country and category, the two factors were put together and weighed and the suppliers were then classified as low, medium or high risk. For the country perspective, Omikron had adopted a country list provided by an acknowledged consultancy firm with expertise in developing risk indices based on a number of factors such as human rights, environment, anti-bribery, corruption, political risks, health and safety. The company used this list which was based on a traffic lights system (red, yellow and green) of signaling in order to develop its country risks. The Supplier Code of Conduct was the basis for Omikron to cooperate with its suppliers. It was based on the principles of the UN global compact and referred to the minimum requirements that the suppliers ought to comply with in conjunction to the simultaneous engagement to continuous improvement.

the due diligence, that they actually have done the audit steps with the supplier. So, we can check if their procedures work or not. (Group Level Risk Manager 3)

There were a number of factors that affected Omikron and its industry, and the group level managers clarified that the area is constantly changing and likewise the SCRM design:

Sustainability is a journey, and the concept of what constitutes sustainability in the supply chain is expanding the whole time. We learn from our interactions with suppliers, customers other stakeholders and the world around us. (Group Level Supply Chain Manager 1)

The Supplier Code of Conduct and the supplier audits had significant impact on the tier 1 suppliers of Omikron. However, the company did not perform audits further down in the supply chain. At the level of tier 2 suppliers and downwards the company's action was less formal:

The Supplier Code of Conduct applies to our suppliers. [...] It is the responsibility of the supplier to ensure that its sub-suppliers comply with the Supplier Code or comparable requirements. (Group Level Supply Chain Manager 1)

Expanding on this matter of Omikron's extensive network of suppliers and their respective supply chains, Group Level Supply Chain Manager 1 referred to the issue of the company having adequate control regarding its suppliers and the different tiers:

We are a very big and diverse company, with a very broad global presence and many suppliers. Sustainability in the supply chain is a journey and we are constantly striving to strengthen our work in this area. We risk assess our suppliers from a sustainability perspective and are in the process of revising this risk assessment process and making it more granular.

Group Level Risk Manager 3 expanded by stating that they do not always have the right to perform audits further down in the supply chain:

We don't even always have the right to go in and audit a vendor, because that vendor can also be a vendor or a supplier to our competitor. So, of course they could refuse to let us in for an audit if it is not stated in the contract. To review their compliance to our Supplier Code of Conduct is another thing, and that is done by purchasing. They can say that we can do our due diligence, but we're not auditing their, let's say, financial flows and understanding their financial situation in detail. "We are your supplier not the same company."

Omikron also had an Internal Code of Conduct regarding its employees in which, amongst other issues, it stated the way they should act when they came across any potential deviations

from the company's regulations. In particular when it came to suppliers and the Supplier Code of Conduct, reporting of possible deviations to the group level was a part of the company's supply chain management. The difficulty of managing supply chains and the risks related to personnel's relations with the suppliers was depicted by Group Level Risk Manager 3 who stated that it was hard to control whether individuals had inappropriate supplier contact, but the company processes could still be valuable when looking into the criteria of a deal:

The supplier side, that's very difficult to see because a private person in purchasing can accept going on a trip paid by the vendor or supplier without even registering anywhere in [Omikron] registers. So if to say: "I am going on vacation this week" and he or she with the family go to Hawaii, play golf, sailing paid by a supplier, that person doesn't need to say that to the company in theory. So, the company could have given that person vacation but what he or she does on vacation that's not the business of the company. So, that's very difficult. What we can see is like the criteria; did you do the right selection and process? Did you get the quotations, the evaluations; the approvals to actually chose this kind of supplier? Suppliers can of course be more expensive than the other suppliers, but there could be criteria that the supplier can deliver high volumes, high quality, etc. So, we can look at that like "ok, we chose these suppliers because they met the criteria and he (the supplier) has been approved by a couple of people or several people in the purchasing process".

4.3.2 Company Unit Management Level: A step closer to the supplier risks

People on this level had a large variety of responsibilities and some of them were working closely with SCRM. Not all people interviewed in this function had extensive knowledge of supply chains. CU Level Risk Manager 1 explained how they started off with analyzing supplier risks by listing according to the level of risk:

I know that we have a lot of things to do when it comes to suppliers, so what we have done is that we have picked the forty suppliers with the highest risk, I know that forty is not a lot, and then we don't have resources ourselves so we have bought that from, I think it was [third party auditing firm], so they will visit them and do these supplier audits. Additional to that, we also have supplier audits from Omikron that audit on bribery and corruption, EHS, and human rights issues etc.

As mentioned already, Omikron was a diverse organization and had an extensive network of suppliers. When talking about this, CU Level Risk Manager 1 referred to the difficulty of having such an extensive network of supply chains under control:

I know that they (purchasing) still are struggling to see how many suppliers they have, because you have a global purchasing organization and then you have the sales units outside of that, more than a hundred and twenty countries. They can purchase themselves, and they mainly purchase for price, so then it's really tricky for us here in Sweden to see that they follow our procedures. So, I don't think that we have that under control.

Expanding on the issue of Omikron's supplier network, CU Level Manager 3 claimed that suppliers were one of the biggest risks that Omikron faced due to its great dependency on them:

We have a lot of assembly. That means that we don't produce the base product ourselves. We don't have machining hours in our production, so we buy a lot of things from suppliers. And that is actually one of the biggest risks we have. I know that we have industrial suppliers only. We know the core technology but 80% of our material comes from external suppliers.

Some managers connected SCRM closely to EHS, and safety in particular, when talking about the biggest supplier risks. The urgency to mitigate these risks in the external suppliers not coming in to work at Omikron's premises was limited:

If you don't talk production wise but if we have the maintenance or can have a subsidy coming in and doing some work for us, then we coordinate them that they know all the safety rules and the safety regulations that we have here and these are the safety clothes you need to have and so on. That we take care of. But if we ship ingots down to [country] and they hot roll it for us and send it back we don't think about their safety, I would think that they would take care of themselves. (CU Level Manager 4)

Omikron's dependency on its suppliers led to the creation of long-term supplier relations in some cases and building such relationships was based on purchasing strategies due to the complexity of products:

Depends on the type of supplier but some products that we buy are fairly complex. So, it's nothing that you can just go and buy off the shelf or order on Internet. It's something where you have to give a drawing and maybe even the production process to a supplier and also maybe sometimes sell them the raw material because they cannot get hold of the right stuff. So, in that sense, yes then it's a really long-term relationship where you also have to think about capacity load within the supplier and so forth. (CU Level Manager 1)

Supplier audits was also an important tool for working with SCRM in Omikron. These were not performed on all suppliers, but mainly focused on risky suppliers:

We started this (supplier audits) up this spring. That's how new it is [...] but I know that the group has helped us a lot to do this, for example, [...] those really risky suppliers. [...] The ownership for doing the supplier audits is at purchasing [...] we have a checklist with questions that we would like them to ask, and then we buy these services from an external company. (CU Level Risk Manager 1)

Expanding on the audit process and the difficulties the CU had come across when performing the audits the same manager saw that there were cooperation issues between the CUs:

I can also see that if you are a supplier to [Omikron], then you need to fill in one evaluation for [CU A] and then for the next [CU] you have something else. Why should we do that? It should be one good question for purchasing.

Regarding the communication and escalation through the organizational levels of potential breaches of the Supplier Code of Conduct, Omikron had specific guidelines in place that issues over a certain cost should be escalated, while health and safety issues were always escalated:

It would probably come, but then it would be a big issue. [...] What we always escalate within suppliers for example is health and safety issues. It doesn't matter if it is a small one or a big one, those are always escalated. Quality issues with a supplier if it's manageable and within a certain level of production cost, then it should be handled by the production manager. It should not be micro management. (CU Level Manager 3)

It was not only the bottom-up escalation of risks and supplier conduct breaches that took place within Omikron. There were situations where the group level communicated incidents of suppliers and countries with intolerable risk, top-down to the CU and to the supply chain functions with the request of immediate ceasing of operations and in some cases without the existence of a contingency plan:

Suppliers, in my view, were evaluated quite a lot in the past as well but we had a big change within [Omikron]. And big focus on this was top-down deciding that these are the risk countries and risk companies that need to be evaluated and if we cannot be certain that they are doing business in a fair way, we stop immediately. So, that has happened a lot more and then top-down, stop your deliveries immediately. [...] Russia, China, India just as examples. (CU Level Manager 1)

Regarding the absence of a contingency in this case, the same manager explained that the reason was that compliance with the Supplier Code of Conduct always was priority number one:

That was also a top-down decision from [Omikron] level that: "Sorry but we already take this risk. Because, it's more important for us to be compliant than to take care of every sales order because it's something we have to do to protect reputation" and most important; to keep to our Code of Conduct. Which of course in the long term and the sustainability of things is the best thing to do but it does cause some turmoil in the company if you don't see the reasoning.

Referring to Omikron's values and the necessity for commitment to the Internal Code of Conduct as well as the Supplier Code of Conduct a manager expressed that it is a different business environment today:

It (the Internal Code of Conduct) is in everything I do with risks, like the fair play and it's one of our core values, so it should be in everything you do. If you don't agree with that, then you shouldn't work at [Omikron] at all. That's how I see it. People have told me that 20 years ago you could get (gifts) from the sub suppliers "We got this and this and this" and I have never seen that. It's a different way of higher level fair play now. The sub suppliers, they don't try to give anyone something and so on. It's a good business climate. (CU Level Manager 4)

4.3.3 Supply Chain Function: The Supplier Code of Conduct as compass

This category was comprised of professionals who were directly working with purchasing of material, management of specific material categories and supplier relations. All people interviewed in this function had substantial knowledge of supplier related matters. The supply chain functions were not centralized due to the diversity of business and there was no perceived reason to centralize:

I think we need to stay on the [CU] level when it comes to centralization for direct material because we are so diverse in what we buy. So, the benefits from having a central [Omikron] direct purchasing would not bring many benefits. (CU Level Supply Chain Manager 2)

CU Level Supply Chain Manager 4 elaborated upon the main risks they were dealing with pertaining to their suppliers, such as Code of Conduct breaches and single sourcing, and the actions they took to mitigate them:

There are many different risks related to suppliers and also the total supply chain. Our suppliers need to conform to the company's Code of Conduct, stating for example that corruption/bribery is not acceptable. Also environmental requirements are included. Then we have also other risks connected to suppliers, and that are risks that suppliers cannot

deliver single sourcing of key components. We mitigate the risk by having more than one supplier where it is possible, and where it is not possible, it is important that we have identified that risk and see what we can do to limit the possible damage.

The issue of Omikron's dependency on long-term relations with suppliers and their strategic importance to the company was also explained by CU Level Supply Chain 1:

How our product is built is, historically-wise, based on that we have produced it ourselves and have designed it ourselves. [...] So, that is also one of the reasons why we have less or quite few supplier relations where we have the possibility to change from a day to another. The products are so complex so you cannot change. They are more of strategic critical suppliers.

Another manager confirmed the strategic importance of suppliers by stating that their network was quite extensive and that in certain cases, Omikron was dependent on specific suppliers when there were not several to select from:

In many cases we are dependent on certain suppliers. If you buy a piece of paper then you can go to anyone and buy the same quality more or less but in certain areas we have one source more or less and then close collaboration is needed. (CU Level Supply Chain Manager 2)

The decision power when it came to doing business with suppliers lay mainly within purchasing in each CU. However, the demands from the CU management level and the group level were also taken into consideration:

Purchasing has together with other parts of the company (Product Management, R&D, etc.) the mandate to select suppliers. [...] It's a shared mandate between the purchasing department and the [CU] that are in charge and that sell the product in the end. (CU Level Supply Chain Manager 4)

When talking about their mandate regarding managing their categories of material CU Level Supply Chain Manager 1 meant that they sometimes felt that they had limited support:

I would say that we have a quite big mandate. Sometimes we feel like we have too big mandate and too less clear requirements on us. I think we would benefit from having more clear ways of where we are going and demands on "this is the room you should be playing in". [...] If you don't have a clear picture enough "this is where we are today and this is where we need to be in the future" is hard to navigate to come to the right level. So, I think we are a bit more functionally divided in the organization; meaning that you look into yours and you can suffer from not having the full picture.

Expanding on the issue of the communication flow within the organization and the difficulties the CU supply chain managers were facing when it came to the ways the supplier related information was communicated across the CUs and the group level, CU Level Supply Chain Manager 4 was of the opinion that there was a shortage in IT systems:

We lack support from IT systems to share supplier information across [CUs]. So the ones that we now have, we definitely try to coordinate. But in other cases it might very well be so that we buy things from the same suppliers without having the coordination. On the other hand we are quite different in businesses, so we buy fairly different things. In some areas, we are several [CUs] that buy from the same suppliers and then we coordinate. We have one category manager for example responsible for this, for the whole company.

CU Level Supply Chain Manager 1 commented on the communication difficulties by stating that there was a coordination issue between the group level function and the CU level function:

Sometimes we can feel that the group sustainable organization is before us in some cases and sometimes behind us. So, I think we need to be more strong in the coordination on what is needed to be done and when. We are a bit weak there now.

The notion of Omikron's shortage in having IT systems for communicating information related to suppliers across all CUs received further support. Some interviewees stated that the CUs, to a great extent, cooperated with different suppliers due to major variations in their products, but lately the aforementioned technological shortcomings had started to be overcome, by the creation of a tool to coordinate suppliers between CUs:

We are now building a process and tools, so when we (take) on board new suppliers we are going to be able to really see what the suppliers are. [...] It will be a common process and it is kind of close now to be finalized and roll out in the full of [Omikron]. [...] So, in an early stage one can see this could be a potential risk that you are entering into, "please, really evaluate this and that". (CU Level Supply Chain Manager 1)

In terms of supplier audits, CU Level Supply Chain Manager 4 explained that Omikron could not audit all of its suppliers and that they were prioritized according to risk level:

We audit the most risky suppliers to really have control of the risk. But there are quite a lot of suppliers so we can't audit all of them yearly, so that's why we prioritize them with respect to risk and do a thorough investigation with the most risky ones. Over a longer time period then the ambition is to audit the suppliers, since this will take time, we're prioritizing based on risk.

Examples of how these judgments were made, showed that countries and categories were considered:

If we would buy steel in Sweden then we will not make an audit but if you are buying steel in certain African countries for example then we would make an audit because of the country. But if we are buying like some rare metals that might be a category that we always do an audit, no matter where the supplier is located. (CU Level Supply Chain Manager 2)

Regarding the processes beyond tier 1 suppliers CU Level Supply Chain Manager 1 stated that they sometimes could go to tier 2 suppliers:

What we do in the first step is more or less saying to our suppliers: "please provide us with evidence or something that tells how you have secured your supply down in the supply chain" and then, if that's not sufficient, we can go for specific meetings at the second tier suppliers and so on.

CU Supply Chain Manager 4 mentioned that, despite the fact that supplier audits had taken place as a procedure within Omikron for many years, during the last few years, they had been working with a combined form of audits that included inspection of suppliers from different operational perspectives:

We have done audits for a length of time. What is quite recent is that we have tried to co-ordinate the different kind of audits that are done from different departments. [...] If someone goes to a supplier and makes an audit, that person can audit not just on compliance but also on quality and other areas.

In situations where Omikron found breaches to the Supplier Code of Conduct, the actions differed depending on the severity:

Depends on what area it (the breach) is within. If they (the suppliers) say that "we will continue to have five year olds working in our factory, we don't care what you say"; then we quit that relationship immediately. [...] But if we are on the borderline then we will work with a supplier to try to fix it. (CU Level Supply Chain Manager 2)

When these violations were observed, then they were usually solved within the supply chain function: "It's something that in most of the cases is managed by the category leader him or herself, nothing that we need to escalate or so." (CU Level Supply Chain Manager 1). However, the escalation of issues to the group level happened in incidents with impacts on strategy. "If we find a strategic supplier not compliant in any way, then of course we need to escalate that." (CU Level Supply Chain Manager 4)

Talking about the existence of cases where the group level suddenly requested the immediate ceasing of cooperation with specific suppliers and countries, CU Level Supply Chain Manager 2 contradicted CU Level Manager 1's statement in the previous section saying that they had not had suppliers in such countries and never received any such top-down order:

We didn't and we don't have any suppliers in those countries that are black listed. [...] (Hypothetically, if we had and) if we know our category, we will know where the second best source is and then we will go to work with them or three others or whatever to select the best one. So, if you've done your work as a category leader then you have the answer to all these. If you can't go to the best one, then you'll go for the others, but if you don't know that information then Google to find the second best source. We always have other potential sources in other countries.

4.4 Events: Risk management in action

"If we had an issue, we would have been better."

- CU Risk Manager

Interviewees referred to certain events as learning opportunities where ERM and SCRM intersected. The first example went back to look at the earthquake and the subsequent nuclear power plant breakdown in Fukushima, Japan in 2011. In this particular case, the factory delivering was a part of Omikron, and hence not an external supplier:

One example would be the Japan earthquakes and problems with the nuclear power plant. [...] They had of course to close. [...] And then we needed to take actions both on safety of people and also, how do we run the operations. We cannot produce without that factory. So, from that angle, to me there is not much difference between an emergency situation in who is acting vs. normal operations, but we escalate faster [...] So, (we made) immediate decisions on reallocating the volumes like this, over to there and so forth. And those are things we do basically every day as well but this is in much larger scales. That was for us a little bit of a proof that even with big volumes that need to shift just like that, we did have another internal supplier, we can solve it. We don't have dual sourcing like that for everything but in that case it worked. (CU Level Manager 1)

Another event that was mentioned in the ERM section that had impacts on their supply chain, mainly on the sales side, but also the supplier side to a lesser degree, was the eruption of the Icelandic volcano Eyjafjallajökull in 2010 and the ash cloud that prevented air deliveries in its aftermath:

A few years ago, the volcano (Eyjafjallajökull) [...] in Iceland made all flight deliveries impossible for some time, that's an example. That was very difficult to predict but when that happened we started to find solutions, how we could use the other distribution centers and deliver products to customers. (CU Level Supply Chain Manager 4)

CU Level Manager 1 made a link to the supplier side, saying that it was less of an issue on the purchasing side:

With the ash clouds, yes for sure (it is a risk) but since we deliver so much from stock it's not urgent like this to get something from a supplier. So, we can shift. Instead of shipping by air, we can ship by truck so from that angle an ash cloud is (less of an issue).

On how this event had changed Omikron's way of working, CU Level Supply Chain Manager 4 stated that it had helped them start from a higher level:

In this case, we are better prepared than last time. We can go back and see what kind of ideas and solutions that were developed. (We) start from another level.

Group Level Manager 2 referred to the recent developments in China as one thing that had impacts on the suppliers since Chinese suppliers were getting more expensive. As prices had increased for those products, the demand had shifted and this had significant strategic implications:

One thing is of course the development in China. [...] All the big manufacturers in the world have production in China, because a couple of years ago it was cheap to have labor in China and the production was very competitive compared to other parts of the world. Now it's not that cheap anymore to have production in China, and so, our customers in most parts of the world prefer to have cheap things, but they prefer, if possible, to buy things that are produced in Western countries, so furtherly when the [products] that come from China are almost the same price as the ones that come from Finland or Sweden or Germany, then suddenly that market is not that attractive anymore.

An interviewee referred to cases where there was suspicion in Omikron that suppliers breached the Code of Conduct by copying Omikron's technology. The manager also referred to the difficulty of knowing the age of people in certain countries:

We haven't had a major breach for quite some time. We've had a couple of issues when we've said "we are not sure, let's investigate". And that's also a way to test the system. We've had a couple of cases when we weren't sure if there was a supplier making copies of our equipment. So, that's a breach of the contract we have so that's a risk of people stealing your stuff. [Omikron] realized though that it was something old, it was not a problem. We've had times that, as a European (company) when we go into facilities,

sometimes it's hard to judge the age of people. And that's the way it is, so we ask a local person to verify that that is the case, but so far there haven't been any major breaches as to what I am aware of, when it comes to the (Supplier) Code of Conduct. (CU Level Supply Chain Manager 3)

CU Level Manager 3 lifted an example where an Omikron product had caught fire, and they went back to the supplier to investigate the cause for this. The manager could not give any details about the outcome of the case, since it was still ongoing during the empirics gathering period of this study, but saw that the process was a learning opportunity:

We had a problem with a product that caught fire and of course we are in the process with the customer "whose mistake was this?" Was it our mistake? Was it quality issues? So we have to review our own processes and see "ok, did this [product] work as it should?" [...] To look all the way in production what could have been wrong, but also looking at our suppliers. So that will have a quite big impact I say if it'll find out that we did something wrong. Or that the [product] was not working properly. Then we need to find another supplier or change or request the money back from the suppliers. You see the chain and we're in the middle of it, so I cannot tell you what will be the outcome.

Different regulations in other countries had also influenced how Omikron could work with suppliers, since the Supplier Code of Conduct might be too strict to have operations in certain countries where people require, for example, longer working days:

(It was) not broken but in some cases and some parts of the world our standards are different from their standards. For example if we have one sentence that we say that there shouldn't be excess overtime work for employees, and some countries they say we won't get any people to work for us unless we allow them to work 16 hours per day for example, because they can't make a living otherwise. So, there we come up to some thinking how we do this. Because we are not breaking the law in that country and if our suppliers should survive, they need skilled people and the skilled people will move if we push this too hard. [...] Because the first rule is not to break any laws in any country and then we have the ethical standards of [Omikron] to push [...] This is one way of [Omikron] making the world better for everyone, like teaching our suppliers how to become better not only to follow the legal requirement but be better than that [...] If we work in Germany with a supplier we don't check child labor because it's obvious that they don't have it. But if we would go to some African country then maybe we could find it. (CU Level Supply Chain Manager 2)

An event which was identified in the ERM was that China was building up on the resources of a certain metal. This was considered an SCRM risk, and measures were hence taken to mitigate that:

We saw approximately [X] years ago, that China is building up on the world's [metal] resources and we wanted to secure that source. So, we made an acquisition of a [metal resource] just to safeguard that. It was truly driven by our business continuity analysis and in this way a very business driven decision. (Group Level Risk Manager 1)

The same event was brought up by CU Level Supply Chain Manager 1 who expanded on how signals from the Chinese market captured their attention:

[Year X] I think we bought two [metal resources]. So, they are part of our group now. So, that was one way of mitigating the risk from a different perspective. Of course it's also having control over one of the main important metals that we need; most of it is coming from China but also to mitigate other risks as well. [...] At that time there were also quite heavy signals from the Chinese market that they were starting to control the market more and the feeling was that: "how could this effect in the future? Could they really start to say this is the amount that you get, you don't get anything more."

Another manager reminisced an event where a supplier's capacity was not fully developed when Omikron decided to close down a production unit. It provided learning in terms of the necessity to cooperate and develop suppliers:

We have quite recently seen problems related to a supplier where we are trying to make our supply chain and company more efficient. Recently we closed one of our production units, and some of the products produced in this unit were moved to other production units in the [CU] but, parts were outsourced, we got into problems with one of our suppliers. Due to too little time to develop the supplier and find alternative sources the initial capacity of the supplier was not enough for our demands, it has taken quite a lot of time to get on a good level again. The consequences are the delayed deliveries with effect on stock availability of products, in a situation where the volumes increase. We need to see to that the suppliers can deliver in accordance with our demands. [...] I think we're working, and have also worked with risks like this for a long time but not always in the structured ways, that we are starting to work now. (CU Level Supply Chain Manager 4)

CU Level Risk Manager 1 brought up an example that showed how the way to look at risks differed compared to before. It indicated an increased usage of the ERM and its connection to SCRM:

I do know other things that have happened, but it hasn't been captured in the ERM. One example was a supplier of a chemical. They didn't follow the European chemical legislation, and then it was the only supplier we had for this chemical that we need for all our production sites and it's a critical one. That was kind of captured. [...] and I didn't work with ERM at that time, but I know that it was not included in the report, because I've seen the old one, so even if we don't have it in the report, we have more a better way of thinking about it today, because when we talk about it, in the projects we have, what's the risk with the project, that we can't reach it, so it's a risk based thinking, even if they don't always include it in the template.

Finally, CU Level Supply Chain Manager 2 remembered how operations could be in previous years. This echoed the issue of not having a complete overview of suppliers in the company which was touched upon in earlier sections:

I think at that time we could go to the same supplier from three [CUs] two days after each other more or less negotiating the price. Now we would try to come as [Omikron]: "this is what we buy, give us your best deal". [...] And the organization in each and every [CU] is more centralized today than it used to be. [...] So, you wouldn't even know if the other [CU's] plant 20 km from you would buy from the same supplier, the same thing more or less because you didn't talk to each other. But now, we collect that on a central level. We would at least see that our [CUs] are doing the right thing, and then we try to go also to [Omikron] level to see that we use as few suppliers as possible.

5. Analysis

Our overarching question is “How does the ERM system of a large MNC interact with the risk management of the organization’s suppliers?” In this section we analyze the case of Omikron using the chosen conceptual framework as developed in section two, by looking, first through the lens of group level, CU level and supply chain function which has been used throughout the empirics section, and then, in section 5.4, a second analysis is done based on whether interviewees are oriented toward ERM or SCRM, regardless of the previous categorization; an analysis which has emerged throughout the working process.

5.1 Rationalities: Making sense of risks

Our interviewees repeatedly linked an increased focus on ERM in the organization to a strategic decision by the new CEO of Omikron. In short, there was a clear rationality of linking ERM to formal processes and, in particular, strategy. The implementation of ERM was not understood as adhering to regulations. This notion was reinforced by people on all levels and functions who could make direct connections between the usefulness of a working ERM system and the strategic direction of the company. Interviewees in the company presented ERM as less of a box-ticking exercise, and more as a tool to enable individual employees to reach their set targets and align their operations to the overall strategy. A simultaneous movement of ERM affecting the company strategy could also be perceived. The decision to not close down a distribution center could be viewed as one example where this has happened (See p. 32).

Although all interviewees saw the need of ERM, the level of urgency differed. Working with ERM was not the only way to conceptualize risks in Omikron. Certain people on all levels referred to the Supplier Code of Conduct, rather than ERM when discussing risk, and especially in conjunction with supplier risks. In some cases, the mission of ERM was already perceived to be included in the company culture as “common sense” (e.g. p. 27). The need to have a formal system penetrating the organization was then apprehended as less critical since risk and risk assessment was already intertwined in employees’ work approach in day-to-day operations. In between these extremes of people who acknowledged the urgency of a formal system and people seeing the need of having an ERM culture, there were managers on all levels who were of the opinion that ERM must bridge both of these areas simultaneously.

According to these interviewees (e.g. p. 26), ERM could not only be superficial tables and documents, but must also become a natural and integrated part of the working and thinking process, which should be achieved through education and training of employees on all levels in accordance to their spectrum of duties. The group of managers that emphasized the need of both formal tools and an improved ERM organizational culture, expressed the most critique to the current ERM system. These managers could be found on all company levels, indicating that there were differences in perceptions even on the same levels and within the same functions. Their attitude toward the employees who concluded ERM to already be in the culture was that they did not understand ERM and that this was an overly simplified way of working with ERM.

According to the definition of ERM in the COSO framework (2004), ERM takes a holistic view of the company, indicating that the company has one risk appetite. This is one of the strongest critiques of ERM that has been put forward by, among others, Power (2009). Managers in Omikron, especially on the group level, agreed that a diverse company such as Omikron, could not possibly have one single risk appetite. (e.g. p. 25) The managers acknowledged the need of formulating different risk appetites corresponding to the CUs business environments, due to the diversity in operations. Thus, our case study is in line with Power's (2009) critique on this matter.

In terms of events, the ERM system did not seem to have been driven by specific events in Omikron, but rather by the overall change in mentality to risk management in the business climate in general. In some cases, such as the serious incident at a Company Unit (See p. 28), events were attributed to an increased risk awareness, but not necessarily to ERM per se. Even though events, in particular related to the suppliers, were acknowledged by the interviewees, they had rarely seen them as increasing the urgency for an ERM system. However, as they looked back on past events, they claimed to have better tools and awareness today thanks to the ERM system that would have enabled them to work more efficiently had they been in place at the time of the events. The example of the chemical supplier that did not follow the European Chemical Legislation is one example where a manager could see that they have better tools today (See p. 50). However, due to this, past events could not be said to have driven change, but they had contributed to the justification and sense making process of the tool at a later point in time. In connection to events in supply chains and their impact on the ERM system, Omikron had avoided having severe incidents in the past. Certain

interviewees argued that an explanation for that could be the nature of its industry and the lack of media attention to it (See p. 36). Nevertheless, an increased media attention could, according to some interviewees, bring an event to light that would become a catalyst for the company to revise its ERM system and the way Omikron works with risk rationalization.

The events mentioned in this thesis do, however add to the understanding of how the company works with conceptualizing and identifying risk, and most importantly, risks that are difficult or impossible to foresee. The Fukushima case (See p. 46), which concerned an internal supplier, could be applied to an external supplier and shows how Omikron used past experience to expand its risk horizons. The ash cloud event (See p. 47) and the changing attitudes toward Chinese products (See p. 47) also point out how specific events could frame risk management differently. It was not yet clear which ramifications the fire that happened in an Omikron product would have (See p. 48), but the fact that the example was brought up implies that it is a type of event that was interesting for the firm to look at to draw learnings for developing the ERM.

Thus, **rationalities**, i.e. “how uncertainty can be conceptualized into risk” (Arena et al., 2010, p. 660) have been identified in two principal ways in Omikron; formal processes and events. The formal processes used, differed according to the spectrum of duties, where people close to the ERM process conceptualized risks through the ERM, and people close to the SCRM conceptualized risks mainly through the Supplier Code of Conduct. Past events could not be seen to have driven ERM development, but they had contributed to the visualization and management of risks. The urgency of a structured ERM system varied between the interviewees, on a scale ranging from having the tools and having ERM as common sense. However, the most common opinion was that both culture and technologies must be intertwined for rationalizing risks. The diversity of Omikron’s operations required an equally diverse view on risk appetite. Moreover, we have observed a dialogue between ERM and strategy, but there was a limited dialogue between SCRM and ERM, indicating that the impact of SCRM in strategy was limited. However, we could not identify explicit differences based on group level, CU level and the supply chain function.

5.2 Experts: Controllers of uncertainty

The ERM function was structured around the group level function which consisted of people that had driven ERM in previous organizations before and that had been brought into the Omikron context with an explicit mission to strengthen the ERM tools and educate the organization in working with these. The injection of new blood in Omikron could be an indication that ERM was prioritized by the company, since it was not just treated as an add-on on the pre-existing company structure. For the consolidated ERM, the Enterprise Risk Manager constantly emerged in discussions with managers on all levels in the company, but particularly on the group level. That person had been involved in developing the majority of the present tools, had educated a large share of the managers in using the tools and was almost always the one that people in Omikron referred to if they would need help with ERM related matters. Several interviewees claimed that the ERM system was quite dependent on this one individual who had been driving and pushing the system out in the firm (e.g. p. 31).

The Enterprise Risk Manager was involved in introducing and implementing the ERM system on a CU level. On this level, the duties of ERM were delegated to a manager who previous to that was involved in Environment, Health and Safety (EHS). Thus, she received extended responsibilities to include ERM as well. The management of Omikron saw that EHS and ERM had strong links to each other regarding risk conceptualization, and this delegation could also be seen as a means of giving ERM as much credibility and authority as the already existing function of EHS. The EHS & Risk Manager held the key role for educating the CU functions in the ERM system. However, this may have varied between the different CUs because, as was observed, the procedures varied extensively. Thus, we cannot make a generalizing statement covering all the CUs.

Our study indicates that ERM was an exercise performed on a managerial level. Thus, ERM seemed to penetrate Omikron to a managerial level, but not further down. This was criticized by some who claimed that ERM efficiency requires full penetration down to the ground level (e.g. p. 27). However, this could be a result of our research design since no non-managers were interviewed, as all of our interviewees, to whom we had been referred by internal sources, were managers. Nevertheless, these managers were constantly referring to each other, indicating that there was a limited group within Omikron with extensive knowledge about ERM. Even though most of the interviewees had a clear picture of what ERM is, there were

people on both group and CU levels who did not have much knowledge about ERM or began to talk about risk management in general when asked about ERM. This indicated that the concept of Enterprise Risk Management had not fully penetrated the organization yet. Hence, ERM was a practice carried out on a managerial level, but not all managers had yet been introduced to and educated in the topic.

Regarding the supply chain, the Purchasing Managers were identified as experts in supplier relationships. They were the link between Omikron and its suppliers, and they were the first to observe events happening in the suppliers. Their main way of framing risk was not through the ERM system but rather through the Supplier Code of Conduct. The experts for this alternative way of looking at risks were not located within the same function as the ERM, but in a separate group function called sustainable supplier management, sometimes referred to as the group sustainable organization. Despite this function's expertise in risks, a shortage of knowledge about ERM was observed, since experts in the sustainable supplier function rarely referred to the ERM function. As far as the study's interviewees have testified they had limited conversation. It is, however, certain that not all people in the sustainable supplier function had knowledge about ERM. Thus, talking about risks in a supplier context and in relation to the ERM system, experts could be divided into two categories. Those who were mainly experts in identifying risks in the internal context of Omikron (ERM) and those who were experts in assessing risks by looking outside the group (Sustainable Supplier function). This echoes the third critique of Power (2009) as the ERM might not fully capture the embeddedness of risks that external entities, such as suppliers, bring into the organization. Nevertheless, the structure of our research may yet again perhaps not have given us the complete picture since we have not been able to talk to all related managers. The experts within the different rationales, could be found on all company levels and functions, indicating that no split could be made according to group level, CU level and supply chain function.

Through the observed events, a number of occasions were identified where experts in the supply chain function had noted risks in the suppliers. Among others, there was the case when a CU Supply Chain Manager suspected that suppliers were copying their product, and also the situation when the same manager had trouble determining the age of factory workers (See p. 47-48). Another example was the experts that realized that it was necessary to secure additional resources outside of China (See p. 49).

Thus, **experts**, i.e. those professionals within firms involved in controlling uncertainty, differed depending on whether we looked at ERM or SCRM. ERM was people dependent and driven mainly by a small team on the group level. On the CU level, the responsibility of ERM had, at least in some cases, been given to previous EHS managers, which enhanced the authority of ERM. This urgency was also underpinned by employing new managers with prior ERM experience. Furthermore, ERM was not perceived to have penetrated the entire firm, but remained on a managerial level. For SCRM, the main experts resided in the Supply Chain Function as purchasing had the main responsibility for supplier risk. Also, the Sustainable Supplier Function on the group level was perceived as experts. However, as previously noted, few distinct differences in experts could be observed according to group level, CU level and supply chain function.

5.3 Technologies: Turning risks tangible

The ERM system was a process carried out using various tools in Omikron. The company did not have a specific software to work with ERM on a company-wide level. Instead, the organization used already existing computer software and means of communication to do its ERM work. The system was not directly connected to any other process within Omikron, but done as a separate procedure. Hence, in terms of technologies, the ERM system was still treated more as an add-on to core procedures in the company, rather than integrated in the main technologies, which contradicts the rationality that ERM should be fully integrated. This gap could potentially be a result of the current ERM still being in its cradle, since many claimed this and wanted to bridge the gap.

The main tool to identify risks and develop the ERM was the workshops that were carried out on different levels and different functions. Both the frequency of workshops and the amount of levels and functions where workshops were implemented had increased in the last few years. The implementation of workshops happened to a deeper level in the organization than the CU top level management by involving people that did not only belong to the top managerial level. There was a perceived need among managers on all levels to go even further down (e.g. p. 29), indicating that the ERM system still had not penetrated the entire company. In addition to being a forum for identifying and discussing risks, these workshops took the form of an educating and training process rather than just a presentation of ERM key characteristics and top-down conveyance of information.

In terms of documentation, the ERM information was communicated to ERM experts using Word documents. This information was then compiled in Excel documents. Several issues were identified regarding how these tools worked. The Excel sheet was perceived as cumbersome to get an overview of. The disposition of it was also considered non-optimal due to lack of space to communicate risk responses. Furthermore, there were many different templates implemented simultaneously resulting in several copy-paste situations for the ERM-responsible (e.g. p. 31). Omikron was, as we have stated, a company with an old heritage, which could be seen in the dispersed IT tools that they used, and this separate treatment of the documents reinforced the notion that ERM had not yet reached full integration with strategic and operational business thinking, but still lay as an add-on practice.

In addition to the workshops and documentation that Omikron used for carrying out ERM, the facilitation of learning between the ERM managers in the CUs as well as between the CUs and the ERM managers on the group level happened through meetings and calls. The main reason for having those two tools, was to fortify the process of identification and management of risk through best practice sharing. Nevertheless, both calls and meetings were referred to by certain interviewees on all levels, indicating that those methods were not extensively formalized and thus, not specifically designed to tackle ERM-related issues. It indicated a notion that a culture of talking and thinking about ERM was building up in Omikron. Hence, by looking at Omikron's ERM technologies, the tools used for the implementation of ERM were not always formal, but rather a mixture of formal and informal procedures. However, the separation between these two types of procedures could not be related to their respective importance, i.e. an informal process could be deemed as important as formal ones for carrying out ERM, by the interviewees. Taking these developments into consideration, a linkage emerges of a movement toward a stage where ERM permeates the organization both as tools and as a company culture.

When working with supplier risks, interviewees within the supply chain function referred to the Supplier Code of Conduct as their main tool. This document, which was developed on a group level, but also used on the CU level when evaluating suppliers, had a clear formal set-up and gave rather distinct guidance to work with suppliers. The supply chain function used ERM. However, since the ERM system had no strong linkage to operations, the usage of the Supplier Code of Conduct came naturally as the proper tool for this function. Thus, the

existence of those two separate systems was not problematic per se. However, they had limited dialogue and exchange, which could be perceived as an indication of a gap between the concepts of Enterprise Risk Management and Supply Chain Risk Management.

The interviewees' acknowledgement of this gap led to an increased urgency to create a new system in the supply chain function that would communicate supplier-related information throughout all levels of Omikron. An example of an event that highlighted this need was the fact that in the past the CUs could separately negotiate material prices with the same supplier almost two days after each other (See p. 50). Another event that exemplified the shortage of the different levels' communication, due to the fact that the tools for Supply Chain Risk Management and the tools for ERM did not intersect completely, was the event when a strategic decision was made without having a proper conversation with the purchasing function. This situation caused the company to receive too little resources from their supplier who could not respond to the demand alone (See p. 49). Had this risk been identified and linked to the ERM system it should have been taken into consideration on a strategic level, showing the need to develop alternative suppliers before closing down the unit. However, this conversation never took place. A last example indicating the necessity of having efficient tools for the communication between ERM and SCRM was the event where a CU Supply Chain Manager acknowledged the difficulty of finding the optimum line between not breaching the Supplier Code of Conduct, about the maximum amount of working hours in factories, and simultaneously attract employees who may demand the possibility to work longer in order to earn a living (See p. 48). Thus, with having the appropriate tools in place the company could be in position to assess those risks and shape its strategy according to the risk appetite that these particular operations demand.

Thus, **technologies**, i.e. "the complex sets of practices, procedures and instruments enacted to accomplish the management and control of risks" (Arena et al., 2010, p. 660), differed to a substantial extent depending on ERM and SCRM. For ERM there was a wide range of non-customized tools such as Excel and Word documents with several different templates. No single system was identified and some of the technologies were considered old by the interviewees. Both formal (workshops and documents) and informal (meeting and calls) tools were found. SCRM's main tool to work with risk was the Supplier Code of Conduct. The supply chain function engaged in some ERM activities, such as workshops, but the linkage remained weak in terms of reflecting supplier risks in the ERM system. However, no distinct

difference in tools was identified based on group level, CU level and the supply chain function.

Summary of analysis

	Rationalities	Experts	Technologies
Group Level	Conceptualized through ERM Conceptualized through Supplier Code of Conduct Linked to strategy	ERM function – some experts coming from outside Sustainable Supplier Function Managerial level	ERM Excel and Word documents ERM meetings, workshops and informal calls Supplier Code of Conduct Supplier Audits
CU Level	Knowledge about ERM but limited usage in risk formulation Knowledge about the Supplier Code of Conduct but limited usage in risk formulation	Environment, Health, Safety and Risk Manager – added ERM responsibility Dependency on group level ERM manager Managerial level	ERM Excel and Word documents ERM meetings, workshops and informal calls
Supply Chain Function	Conceptualized through Supplier Code of Conduct Knowledge about ERM but limited usage in risk formulation Linked to operations	Purchasing function Managerial level	Supplier Code of Conduct Supplier Audits ERM Workshops and low degree of other tools

Table 1: Summary of analysis

5.4 Dividing according to functions: An issue of organizational distance

The managers in the supply chain function understood the need of using ERM in the intended manner, but limited guidelines prevented them from fully leveraging from the perceived benefits that complete ERM implementation would provide. This discrepancy between theory and practice could potentially be explained by the organizational distance, implying that the ERM managers may have lacked some understanding of the operational activities, and the supply chain function lacked full understanding of the tool's design which had been elaborated on a consolidated level. This distance was also visible when looking at the rationalization of supply chain risks, where risks were mainly conceptualized through the Supplier Code of Conduct for the supply chain managers, while the ERM managers' work on the identification of risks was not directly connected to the risks that the suppliers bore. The two different ways of conceptualizing risks could, however, be found on all levels in the

organization, indicating that we cannot make a distinction of risk rationalization depending on the group level, CU level and supply chain function. This also applied to experts and technologies to a certain extent.

Therefore, a clear split in terms of rationalities, experts and tools did not emerge based on the division of the company according to the group level, the CU level and the supply chain function. However, by dividing the interviewees according to category experts we got more interesting results. By doing this split, we got one group that was more strategic and heavily involved in ERM, and one group that was more operational and heavily involved in Supply Chain Risk Management.

In the ERM group, we found a risk rationality of aspiring to link ERM to the strategy. We also identified a strong will to penetrate the entire organization with an ERM mindset, working proactively and reactively. However, this group had little knowledge about the suppliers, in particular in relation to operational matters. In terms of technologies, this group mainly used the ERM tools listed above to work with risks. In the SCRM group, the prevailing rationality was also linked to strategy, however, focus was directed to operations. Here, we identified the need to connect the company's strategy to the control of the extensive network of Omikron's suppliers. This group was quite knowledgeable about ERM and recognized the need of using it in operations. Nevertheless, considering the perceived limited guidance that they received from the ERM group, the SCRM group purported that it did not fully comprehend the ways that the ERM system could best be leveraged. Regarding technologies, this group mainly used the Supplier Code of Conduct as its most important tool for working with risk. The area between these two groups, is exactly the area that was identified in the theory section of this study, namely the intersection of ERM and SCM; i.e. SCRM. Our study indicates that there is a prevailing disposition in the company to communicate more to bridge this gap, but at present, this gap remains an unsolved issue since the two groups develop parallel to each other and only have limited intersection.

An exemplifying circumstance that highlights this difference was observed in the perception and conceptualization of supply chain risks between managers from various functions even within the same CU. Managers involved in the implementation of ERM within CUs strongly expressed the opinion that the large network of suppliers in Omikron was not under adequate control. While managers more directly involved in supplier relations were of the opinion that

there was no issue of losing control, acknowledging, however, the room for improvement. The same tension was observed in relation to suppliers from which Omikron was single-sourcing material. The above could be an indication that ERM and the risks related to suppliers were differently perceived and addressed by the managers based on their spectrum of duties and their abilities to perceive and interpret the concept of risk.

	Rationalities	Experts	Technologies
ERM involved	<p>Linked to strategy</p> <p>Conceptualized through the ERM system</p> <p>Knowledge about supplier risks, but limited usage in risk formulation</p>	<p>ERM Group Level Function</p> <p>Environment, Health, Safety and Risk Manager</p> <p>Managerial level</p>	<p>ERM Excel and Word documents</p> <p>ERM Meetings, workshops and informal calls</p>
SCRM involved	<p>Linked to operations and strategy</p> <p>Knowledge about ERM but limited usage in risk formulation</p> <p>Conceptualized through the Supplier Code of Conduct</p>	<p>Sustainable Suppliers – Group Level Function</p> <p>Purchasing CU Level Function</p> <p>Managerial level</p>	<p>Supplier Code of Conduct</p> <p>Supplier Audits</p> <p>ERM Workshops and low degree of other tools</p>

Table 2: Summary of analysis according to 5.4

6. Conclusions

For this thesis we wanted to study how the Enterprise Risk Management (ERM) system of a large multinational company (MNC) could be affected and take the risks that the company's suppliers bear into account, i.e. the Supply Chain Risk Management (SCRM). In order to investigate the aforementioned, we chose a large and complex organization that had an ERM system in place. Moreover, we selected a company that belongs to the manufacturing sector due to the fact that it would have distinct supply chains and that there is a lack of empirical research for non-financial companies. We then identified relevant people within the two fields and carried out interviews with them. In total 15 interviews were conducted. The gathered empirics was then analyzed using Rose & Miller's (1992) framework as adapted and interpreted by Arena et al. (2010) in which rationalities, experts and technologies act as the three pillars of analysis. We will now link the analysis to our research question and to previous research, discuss scope conditions of our study, and finally outline a few identified suggestions for future research within the field.

6.1 Discussion: Interaction between ERM and SCRM

To begin with, the categorization of our interviewees in two levels and one function resulted in providing three similar stories regarding ERM, its implementation and its connections to SCRM. In all three categories there were managers who had strong, adequate or limited knowledge about both systems. Our choice to investigate the organization from this approach hence only contributed with limited insights in the dynamics of the company. Instead, an organizational distance was observed between the managers that work closely with ERM and the managers that mainly work with suppliers in the supply chains. Both groups understood and acknowledged the necessity of having efficient ERM and SCRM systems in place. However, a gap was observed in practice, since the former group may have lacked some understanding regarding the operations taking place in purchasing; resulting in the design of systems that did not fully encompass all practical details. In addition, the latter group lacked some understanding of the systems' design on the consolidated level, due to its limited spectrum of operations in relation to the group level. Hence, a split between ERM & supply chain experts provided more insightful information about the dynamics of the firm and its systems. Another observation was that the ERM system had not penetrated all levels of the company yet. That could be partially explained by the fact that ERM was still perceived as a

managerial task that had not yet reached other levels further down in the CUs. The majority of the managers acknowledged the necessity of ERM's existence, however, not all of them shared a clear view about its connection to the overall company strategy. Moreover, from all 15 managers who had knowledge about ERM to a certain extent, the factors that mainly determined their degree of knowledge were the time they had been working as managers and the duties of their positions. We observed that interviewees that had recently become managers had more limited knowledge about ERM in comparison to those who had been in managerial positions for a longer time. The duties of some group level managers were less connected to the ERM process in a structured way. That resulted in having a few managers characterizing ERM as "common sense" and an ingredient of the company's culture without seeing the need of necessarily having a formal system, and other managers stating the exact opposite and highlighting the need of having structured tools in place. Nevertheless, there were some interviewees who clearly expressed the necessity for combining both "schools" of thinking in order for ERM to become a holistic and integrated management system. We observed that the implementation of a structured ERM was a priority for Omikron. The shift towards ERM was driven from the group's previous CEO and the new mandate was dispersed to all managerial levels. New professionals with prior experience in this field joined the group in order to perform the task. Therefore, Omikron's ERM system could be characterized as people driven but also as people dependent. A strong linkage was observed between how managers perceived ERM implementation and the ERM experts who drove that process. This fact led us to the following question; what would the impact be if those ERM experts one day left Omikron? However, this question is beyond the scope of this thesis.

Regarding SCRM, managers on all levels acknowledged its importance for Omikron and the necessity to link it to the company's overall strategy and the ERM system. However, we observed that in practice this was not always the case. Some managers expressed the opinion that the extensive supplier network of Omikron was not entirely under control and thus, the group became more exposed to risks related to them. While other managers were of the opinion that Omikron, to a great extent, maintained an adequate level of control over its suppliers. This is one more indication fortifying the organizational distance that was observed within the group. That difference in managers' perceptions could be partially explained by the fact that the ERM system employs a number of cumbersome and *old-fashioned* tools in order to be communicated and that became an obstacle for an efficient incorporation and intersection of SCRM with ERM. Another finding was that events happening in the suppliers

could not be claimed to drive change in the ERM system, however, Omikron mainly used the learnings from events that happened in the past for improving its risk management on all levels. Nevertheless, the group had not experienced major events that could be the force for putting more focus on ERM and SCRM but the learning was rather initiated by the general awareness in the industry and the modern way of doing business. A reason for that shortage of events could, according to some interviewees, be the nature of Omikron's industry. Since the group does not produce consumer products, the interest of people and the attention from media investigation might be limited. Finally, from the observations made in Omikron we claim that the empirics is in line with Power's (2009) first critique about risk appetite and third critique about embeddedness. The group is diverse and due to the complexity of its operations, Omikron's management chose not to impose just one entity-wide risk appetite. Rather it realized the need for adjusting ERM to the specific needs of every CU and their supplier risk management (i.e. SCRM) and that is an advocacy to Power (2009) and a direct contradiction to more prescriptive ERM solutions, such as the COSO framework (2004). In relation to embeddedness, the organizational distance between SCRM and ERM points toward a lack of integration of risks from external actors in the ERM system.

6.2 Theory discussion: A dialogue with previous research

In relation to previous research outlined in section two, we see that our observations are in line with several other research findings. Starting with Beasley et al. (2005) we see that Omikron fits the description of a company that would implement an ERM system, in terms of size, complexity, and overt support from the previous CEO. Furthermore, we have seen that one distinct feature of the intensified focus on ERM in Omikron has been the increased frequency of reports and meetings, which is in line with perceived effectiveness of ERM, according to Paape & Speklé (2012). That notion was also expressed by our interviewees. Arena et al. (2010) established that ERM implementation could vary extensively between different firms. By using the same framework in a single case study, we have shown that perception of ERM implementation could also vary depending on functions within the same company. Hence, we realize the need to not only take a company view of ERM, but to analyze ERM perception within different company functions. Jordan et al. (2013) talked about how ERM technologies can be used in inter-organizational contexts to manage ERM systems. In Omikron, we have seen how they attempt to use these technologies to manage ERM and SCRM. However, the intersection of these areas is still unclear. Mikes & Kaplan

(2013) criticized ERM frameworks for being too static and they encouraged the creation of a more flexible ERM system than what is outlined in prescriptive frameworks. Omikron has, in line with this, not chosen to stick to one framework, but has “picked the cherries” because it acknowledged the need to adapt according to the company’s specific context. As we have already shown, Power (2009) lies at the heart of our study. Through our analysis we have also visualized that our findings are in line with his first and third critique of an entity-wide risk appetite and embeddedness respectively. In regards to the study of Gaudenzi & Borghesi (2006), we have seen that Omikron perceives ERM as a means to prioritize risks, and ERM could therefore be applied in order to prioritize supplier risks just as in the AHP model which was advocated by Gaudenzi & Borghesi (2006). Finally, Kleindorfer & Saad (2005) provided a structured approach to deal with SCRM which we believe could be addressed by ERM in order to lift supplier risks from the floor to the board room, which is something that also was observed as an aspiration in Omikron.

6.3 Scope conditions: Recognizing the context

The findings of this thesis are relevant in the modern day business world in the context of large MNCs with substantial dependency on suppliers, when managing the interaction of supplier risks with their ERM systems. However, at this point we would like to refer to the scope conditions of our study. We interviewed a total of 15 interviewees which is perhaps in the lower ranges for a single case study, but we feel confident that we have captured the most important and central individuals in the two research areas (ERM & SCRM). Our interviewees kept referring to each other, and except for a few cases all the people in this delimited clique participated in our study. Thus, the number of interviewees is not a substantial drawback. The fact that two interview sessions were carried out with two interviewees simultaneously could potentially have impacted the outcome, since the interviewees may have influenced each other’s answers and maybe felt less comfortable to speak freely. We acknowledge this issue, but conclude that it was a necessary measure to get access to certain interviewees. Another necessary measure that might have influenced the answers of our interviewees, was the interview guide that we had to send out. Most of them required to have some information in advance. Of course this provided the managers with knowledge about the aim of our study and they may have read up in advance. In some cases we might therefore not have received their spontaneous answers, but since we did not stick to that interview structure, the impact should be limited. We believe that anonymizing the

company and the interviewees provided us with more reliable statements as interviewees were able to speak freely and, as our aim was not to describe the company, but rather investigate systems, this issue is minor.

6.4 Suggestions for research: Preparing for a future of uncertainty

To conclude this thesis we would like to present a couple of interesting research fields we have identified, which could reinforce, contrast or extend the findings of this study. First, it would be interesting to carry out a comparative study with several firms in order to reinforce generalizability. Further in-depth case studies in similar companies could also serve to contrast our findings. To further investigate the impacts of specific events in suppliers on an ERM system it would be valuable to carry out a longitudinal study of a company with an established ERM system where its development in relation to events could be followed and mapped in a better manner. However, this type of study would require a longer time horizon.

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8. Appendices

8.1 Appendix A – Overview of interviewees

Interview	Title	Date
1	CU Level Manager	2015.09.30
2	Group Level Risk Manager	2015.10.01
3	Group Level Risk Manager	2015.10.01
4	Group Level Manager	2015.10.07
5	CU Level Manager	2015.10.09
6	CU Level Manager	2015.10.12
7	CU Level Risk Manager	2015.10.19
8	CU Level Supply Chain Manager	2015.10.20
9	CU Level Supply Chain Manager	2015.10.20
10	Group Level Manager	2015.10.27
11	CU Level Supply Chain Manager	2015.10.28
12	CU Level Manager	2015.11.03
13	CU Level Supply Chain Manager	2015.11.05
14	Group Level Risk Manager	2015.11.06
15	Group Level Supply Chain Manager	2015.11.09

8.2 Appendix B - Interview guide

1. Background on interviewee and setting the stage (brief)

- Could you briefly describe your current role in the company? (Name /responsibilities /area of expertise, etc.)
- Is your current role similar/different to previous roles / professional experience?
- How long have you been working: in your current role? At the company?
- Do you have a formal risk management responsibility?
 - o If yes, what does it entail?
 - o If no, do you have indirect / informal / inferred responsibility?
- Do you have a formal responsibility for managing supplier relationships?
 - o If yes, what does it entail?
 - o If no, do you have indirect / informal / inferred responsibility?

2. Managing supplier relationships

Please try to use the example of a specific purchased product or supplier when answering the following questions, with the exception of *)

- How is the on-going, “every day” supplier relationship managed?
 - o Communication?
 - o Evaluation?
- Does the everyday management differ from how things are handled if something unexpected happens with your production or with your supplier?
 - o Does this ever happen?
 - o Where, why and to whom do these issues get addressed?
 - o Does it matter whether it is a positive or negative event?
- *) During your career, have you experienced an event (or several) in a supplier relationship which had a substantial impact? How, if at all, has this influenced how you work with suppliers today?

3. ERM in general (brief)

- Could you briefly describe how the ERM of the company is structured?
 - o Who is responsible for what?
 - o In what situations is the ERM system used?
 - § Strategic decisions
 - § Operational decisions
- Is there a set procedure for reporting and responding to particular events?
 - o Can you give a few examples?
- To your knowledge, have there been any changes made to the design of the ERM system or its use as a result of specific events?
 - o Examples?
 - o If not events, then what, according to your experience, have been important inputs / considerations for the design (and re-design) of the ERM system?

4. ERM & Suppliers

- How are suppliers taken into account in the present ERM-system?
- Are there any reporting requirements e.g. from purchasing managers to headquarters?
- Please describe these requirements and responsibilities and what this involves more practically.
- Are there any ‘best practices’ or ‘key learnings’ from previous events – within industry, from competitors, own experience etc. – which have influenced the present ERM system?
- Examples?