

Dealing with Risk in Business Networks: The Use of Institutional Devices

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"The results of human activity cannot be anticipated and then only in so far as even a probability calculation in regard to them is impossible and meaningless."

(Frank Knight, 1921, p.311)

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To a dear friend I owe a precious lesson: To allow the future to come, in whatever shape it manifests, as a divine gift that we are privileged to receive.

ABSTRACT

This thesis examines how companies deal with risk in business networks. Drawing on empirical evidence from German food retailer-manufacturer networks and existent research conducted at the intersection of business network and institutional research, this thesis examines two under-researched questions: What constitutes risk in business networks? And how do companies deal with risk in business networks?

In answering these questions, this research refines our understanding of risk in business networks by proposing an *uncertainty-based conceptualisation of risk* and developing an *institution-based explanation* of how companies deal with risk in business networks. While network research provides a relevant ontological understanding of business interactions, this thesis draws on institutional research to *explain how companies use institutional devices*, including industry standards, General Terms and Conditions and framework contracts, for dealing with risk at *three interdependent levels of interaction*: Network, focal, and dyadic interaction. In this way, the thesis offers one of the first ventures developing an institution-based explanation of how companies deal with risk in business networks.

The institution-based explanation of how companies deal with risk is captured in the development of an integrative framework. This framework conceptually crystallizes the synthesis of network and institution-based research by mapping companies' use of institutional devices onto the three levels of network interaction. The institution-based explanation illuminates how institutional devices facilitate dealing with risk *interactively* across direct *and* indirect interactions, because their manifestation in *business artefacts* enables transcending time and space. This contribution is informed by empirical analysis of *business artefacts-in-use* and is conceptually captured in extending the Actor-Resources-Activities model.

Methodologically, this thesis employs a critical realist epistemology and network ontology to underpin qualitative case study research in German food retailer-manufacturer networks. The empirical evidence involves data triangulation from 42 in-depth semi-structured interviews, participant observation and analysis of business artefacts-in-use, including documentation of the International Featured Standard, eleven General Terms and Conditions and six framework contracts.

KEYWORDS: Risk, business networks, institutional devices, business artefacts.

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CHAPTER 1

INTRODUCTION

CHAPTER 1. INTRODUCTION

This thesis examines how companies deal with risk in business networks. This research emerged from the observation that while many companies face risks emanating from direct and indirect business interactions, there is limited research investigating *how* companies deal with risk. While risk is inherent to any economic exchange and is approached systematically by scholars in economics, behavioural science and operations research, research of how companies deal with risk in the context of business-to-business (B2B) marketing has received very limited attention. In fact, most handbooks on business marketing do not list the term 'risk' in their index pages, as if marketing management is immune to this challenge. However, a company's ability to deal with risk is invaluable in reducing losses to key resources such as a company's market share, brand value, company reputation, product quality and business relationships.

To sustain in highly competitive markets, companies must engage in increasingly globalized markets spanning multiple regulatory systems and local business customs, leverage outsourcing, and make use of innovative technologies. Balancing between "lowest cost at any risk" and "no risk at any price" (Newing, 2012) becomes key to surviving in global networks, where even incremental cost savings are decisive. Specifically, companies must engage in complex, often international, business networks to deliver superior value at competitive prices: to meet shareholders' requests for steady profit growth and the consumers' and regulators' demand for high and transparent social and environmental standards – whatever the number and origin of business partners. Inherent to operating in such complex business networks is the need to deal with risk.

Marketing managers and scholars cannot overlook the relevance of dealing with risk. Traditionally, marketing has been concerned with strategies for creating and leveraging resources such as products, brands, sales, customer relationships and company reputation. Surprisingly, much less emphasis is given to understanding *how these resources can be protected from risk*. The limited attention to risk is even more surprising considering that key metrics for evaluating risk impact concern resources of crucial interest to any marketing manager, including, among others, sales, market share, business relationships and brand value. Therefore, this thesis addresses the void in research on risk in business marketing by investigating how companies deal with risk.

Recent events, such as the horsemeat frauds (2013, 2015), the Escherichia-coli bacteria outbreak (2012), natural disasters or the financial crisis haunting companies beyond the financial sector since 2008, have several characteristics in common:

First, such events propelled risk to the top of most companies' business agendas (Stulz, 2009; Solman, 2012), regardless of the company's industry, size or location.

Second, the nature and frequency of these events indicate that they are not of a limited edition, but inevitable elements of managing and marketing in complex webs of interdependent business relationships, and dealing with these risks will become more complex as business activities becomes more global and finely calibrated.

Third, these events demonstrate that companies must be concerned with risks originating from *anywhere* in the business network, because even events in distant parts of business networks may have major repercussions for businesses at any 'other end' of the network – a phenomenon resembling 'risk contagion' or 'risk migration'. Hence, 'risk' is not confined to a single event in time. Instead, risk reflects a difficult-to-predict series of sudden changes, with potentially high negative impact on company resources.

Fourth, the scale and complexity of each event rules out the possibility of any one company resolving the issue unilaterally by 'imposing' a pre-planned strategy for 'risk management' upon its 'environment'. Similarly, any risk management strategy based on a single company perspective or accounting merely for risks from *direct* business interactions is of limited use when the company's resources are embedded in, and potentially exposed to, risks originating from distant, *indirect* business interactions.

Finally, the means for dealing with risk in business networks must be cost-efficient and parsimonious. Paraphrasing a passage from Andrew Haldane's speech (the Bank of England's executive director for financial stability at the Federal Reserve's Annual Policy Conference in Kansas, August 2012) on the need for simplicity in addressing complex problems illustrates this final point: *Complex environments call for simple rules...Modern business is complex, perhaps too complex. Regulation of modern business is complex, almost too complex. That configuration spells trouble. As you do not fight fire with fire, you do not fight complexity with complexity.*

The remainder of this chapter is structured as follows: Section 1.1 introduces the new perspective suggested to inform research on risk in business marketing. Section 1.2 states the thesis' research objectives and questions. Section 1.3 outlines the thesis' structure.

1.1 A new perspective

Following a systematic examination of existent approaches to understanding risk, which includes economic, behavioural and operational approaches, this thesis develops an alternative perspective to explain how companies deal with risk in the context of business marketing: Grounded in the network approach to business markets that captures companies' embeddedness and interdependency in direct and indirect relationships, this research considers insights from institutional research to explain companies' use of industry standards, General Terms and Conditions and framework contracts as *institutional devices* for dealing with risk in business networks. The outcome of this empirically grounded synthesis is the

development of an institution-based explanation of how companies deal with risk in business networks.

The purpose of introducing a new perspective to understanding risk in business marketing is to account more accurately for real-life complexities that companies face in dealing with risk. The new perspective departs from existent approaches to risk that typically adopt the perspective of a single firm and unilateral strategy. In a nutshell, the new perspective revolves around three interdependent observations:

- 1) Risk in business marketing matters, because it has a potentially *negative impact on key resources*, and as a result may negatively affect company performance.
- 2) Risk is inextricably linked with the *embeddedness of companies, activities and resources* in interdependent networks of *direct and indirect relationships*.
- 3) The new perspective highlights that dealing with risk in business networks demands from companies the use of efficient and parsimonious processes that span geographic, time, legislative and organizational boundaries to *interactively* address risk. In explaining *how* companies accomplish this, the thesis draws attention to the use of institutional devices, including industry standards, General Terms and Conditions and framework contracts. Such institutional devices are structural arrangements that express shared, adaptable rules of behaviour to which individual and collective actors orient their interactions, regardless of geographical, legislative or organisational boundaries. In this way, the use of institutional devices responds to the limitations of risk management plans that focus mostly on the intra-organisational decision-making processes within single companies. In contrast, institutional devices *transcend* organisational (inter-)actions. This thesis aims to deepen our understanding of the use of institutional devices for dealing with risk in business networks.

In the context of this thesis, an understanding of risk is adopted that defines risk as the product of two interrelated elements: uncertainty and impact (Miller, 1992; Zsidisin, Melnyk & Ragatz, 2005). This definition follows an important development in thinking about risk in business research and practice that focuses less on identifying probabilities and emphasizes instead the *uncertain nature of risk*. In this definition of risk, uncertainty refers to the “state, even partial, of deficiency of information related to, understanding or knowledge of, an event, its consequences, or likelihood” (ISO 31000 Guide 73:2009).

Typically, the definition of risk as a *product of probability and impact* (Brindley, 2004) is traced back to a reading of Frank Knight’s seminal work on ‘Risk, uncertainty and profit’ (1921), where he defines risk as events with known probabilities and uncertainty as events with unknown probabilities. While this is an accurate definition informing most economic research on probabilistic modelling of risk, it is important to recall that many risks in business marketing originate from a *lack of knowledge about future interactions* between purposeful

actors. It is the lack of knowledge about “the strategies actors will select and about the circumstances that will influence the course of the game” (Koppenjan & Klijn, 2004, p.42) that limit the usefulness of a probability-based conceptualisation of risk in this context. Frank Knight was not ignorant of this problem, and in fact, a closer reading of his work reveals that he warned of transferring a probability-based conceptualisation of risk to the context of business interactions: “The results of human activity cannot be anticipated and then only in so far as even a probability calculation in regard to them is impossible and meaningless” (1921, p.311). The changing understanding of risk in business, as a phenomenon approximating uncertainty rather than an event with assigned probabilities, is evident in the recent change to the ISO 31000 guide on risk management: The previous definition of risk as a ‘chance or probability of loss’ has been replaced, with risk defined as “the effect of *uncertainty* on objectives” (ISO 31000 Guide 73:2009, emphasis added).

While thinking of risk in terms of probabilities remains useful for mathematical and software modelling, it is of limited relevance for understanding how companies deal with risk in the context of business networks for the following reasons:

- a) Even if it were technically possible to assign probabilities to all potential risks – which is prohibitive in terms of data and cost – ultimately, companies may not necessarily have the capacity to process this vast amount of information. As Mousavi and Gigerenzer note in their study, titled ‘Risk, uncertainty and heuristics’, “the knowledge of how people *should* make decisions cannot be studied without considering how people are *able* to make decisions” (2014, p.1627, emphases in original).
- b) Drawing on Knight’s insight from almost a century ago, strategic interaction between more than two purposeful actors eludes the accurate calculation of probabilities, because the actual behaviour may not necessarily comply with anticipated outcomes.
- c) To understand how companies *deal* with risk, one must gain an understanding of the manifestations of risk. The empirical research underpinning this thesis suggests that the understanding of risk is not easily confined to the technical assessment of ‘events with assigned probabilities’. Rather, risk is inextricably linked with uncertainty over future outcomes and the potential impact on resources.
- d) The assumption of risk as events with *knowable* probabilities tends to implicitly suggest that risks are *extant threats* that individual companies can identify in advance, and unilaterally address by means of implementing up-to-date risk management systems. Such risk management systems typically prescribe a linear process of risk identification, management and evaluation from the perspective of a single actor. However, as stated earlier, real-life risk events and subsequent effects rarely behave linearly, and few contemporary risks can be mitigated by any one company unilaterally.

These considerations highlight that companies must deal with risk that may originate beyond a company's direct business interactions and which unilateral 'risk management systems' may not consider. In practice, this translates into the need for companies to adopt a "mega-scale view" (O'Marah, 2007) of their networking activities. In terms of research, this raises implications for the unit-of-analysis, which must capture how companies deal with risk *beyond* the single actor or direct relationship and instead consider a higher level of aggregation: the business network.

By adopting the business network perspective (Ford et al., 2003), this research captures how companies deal with risk in webs of *interdependent* direct and indirect relationships, as well as the contextual embeddedness of these relationships. The interdependency of companies allows risk to migrate across a network, regardless of the actors' geographic dispersion. As a result, interdependence and connectivity preclude any one company from addressing risk unilaterally, and consequently this requires investigation into how companies deal with risk *in interaction* with other actors. Therefore, this research captures a variety of actors involved in dealing with risk and investigates how companies create 'islands of certainty' across geographical and legislative borders while maintaining efficient, flexible and responsive interactions.

The above considerations have informed the thesis' research objectives and questions, which are introduced next.

1.2 Research objectives and questions

The thesis' research objectives are to *describe and explain* how companies deal with risk in business networks. Grounded in the uncertainty-based understanding of risk, *risk* is defined as the product of two interrelated concepts: uncertainty and impact. The term *business network* is used as a metaphor to describe markets as complex webs of interdependent direct and indirect relationships between actors. Relationships in business networks are key elements that connect actors, resources and activities (Holmlund & Törnroos, 1997). The term *actor* captures business and non-business organizations, including companies, governmental regulators, non-governmental organisations (NGOs) or industry associations.

The thesis adopts the business network approach to markets to investigate how companies deal with risk in the empirical setting of the German food retailer-manufacturer industry. Although risk is surprisingly under-researched in existing business network literature, this approach promises to reflect more accurately how companies deal with risk in real-life in three ways:

First, the network approach captures food retailer-manufacturer relationships as complex, embedded and interdependent webs of *direct and indirect interactions* between actors, resources and activities.

Second, the network approach considers that the “complexity of the network and its environment is greater than that which can be understood and responded to by an individual firm” (Wilkinson & Young, 2002, p.126). Therefore, the business network approach is suitable for understanding how companies deal with risk *in interaction* with each other.

Third, the network approach provides conceptual tools for moving beyond the single company view as the unit-of-analysis that has informed most existent research on risk to date. Instead, the network approach enables the researcher to capture how companies deal with risk at three, interdependent levels of interaction: Network, focal, and dyadic interactions.

To meet the objectives of describing and explaining how companies deal with risk in German food retailer-manufacturer networks, the following research questions inform the research process:

RQ1: What constitutes risk in business networks?

RQ2: How do companies deal with risk?

Answering these research questions provides the foundation for the thesis' theoretical, methodological and empirical contributions, which are discussed in Chapter Ten. A summary of these contributions is briefly presented below:

The thesis' primary contribution rests in the theoretical development: The findings present one of the first ventures to understanding risk as an important empirical and conceptual problem for marketing scholars. Taking existing critiques of probability-based approaches to risk seriously, this thesis proposes an empirically-informed uncertainty-based approach to risk that more accurately reflects real-life manifestations of risk in business networks. Building on this understanding of risk, the thesis' theoretical contribution constitutes the development of an *institution-based explanation of how companies deal with risk in business networks* (see Figure 9.7), which illuminates for the first time in the literature on business networks how companies use industry standards, GTC and framework contracts as 'institutional devices' for dealing with risk in direct *and* indirect relationships.

The thesis' secondary contribution is methodological: Acknowledging the limitations of research investigating network phenomena at *one* level of analysis, this thesis illuminates the benefits to be gained from adopting a multi-level approach that considers the interdependencies between interactions at the dyadic, focal and network level. Furthermore, the thesis highlights the value of analysing *sets of business artefacts-in-use as primary empirical data* informing qualitative case study research for a more accurate understanding of business network phenomena.

In empirical terms, the thesis adds to the limited body of *empirical* studies investigating how companies deal with risk in direct *and* indirect relationships. Building on a rich empirical dataset from examining German food retailer-manufacturer networks, the thesis illuminates to marketing managers the relevance of considering risk emerging *beyond the 'horizon'* of individual companies and how companies may consider standards, GTC and contracts as strategic, institutional devices to address uncertainty and impact of risk on key company resources.

1.3 Thesis structure

The thesis comprises ten chapters.

Chapter One introduces the thesis' research topic and articulates the rationale for the research objectives and question. This introduction serves two purposes: First, it illuminates the need for considering a new perspective to research risk in business networks in the context of existing research and empirical observations. Second, it positions the thesis in the field of business network research by highlighting the thesis' contributions.

Chapter Two builds the thesis' theoretical foundation by charting how previous research addressed the research questions introduced above. Chapter Two starts with a systematic review of dominant approaches to researching risk, and then narrows the discussion to the areas relevant in understanding the observed empirical phenomena. The literature review establishes the theoretical synthesis between the network and institutional approaches to researching risk, which informs the data analysis and the development of the integrated framework discussed in Chapter Ten.

Chapter Three describes the philosophical and methodological decisions underpinning this thesis. It justifies and explains the thesis' grounding in critical realist epistemology, network ontology and discusses the implications for conducting case study research. These decisions significantly shape the combination of research methods, including the use of in-depth interviews, business artefact analysis and participant observation, as well as the employed data analysis and reporting practices. The chapter concludes with discussing ethical considerations, research quality and rigour.

Chapter Four defines the empirical industry context, which is vital for understanding the reported empirical evidence presented in subsequent chapters. The chapter discusses the economic, political, legal, social and industry-specific developments relevant to understanding German food retailer-manufacturer networks.

Chapters Five to Eight report the empirical evidence of how companies deal with risk in the context of German food retailer-manufacturer networks. Chapter Five reports evidence on the loci and impact of risk in German food retailer-manufacturer networks. Chapters Six, Seven and Eight systematically report companies' use of three institutional devices for dealing with

risk: the international featured standard (Chapter Six), General Terms and Conditions (Chapter Seven) and framework contracts (Chapter Eight). The three chapters correspond with the three levels of network analysis, including the network, focal, and dyadic levels respectively.

Chapter Nine answers the research questions by confronting the empirical evidence with relevant theoretical approaches. This discussion generates three important outcomes: Grounded in the uncertainty-based approach to risk, the chapter develops an institution-based explanation of how companies deal with risk in business networks (Chapter Nine, Section 9.3). The institution-based explanation captures companies' use of institutional devices for dealing with risk in direct and indirect relationships. This discussion underpins the thesis' theoretical, methodological and empirical contributions, which are presented in Chapter Ten.

Chapter Ten concludes the thesis by articulating the thesis' theoretical and methodological contribution in the field of business network research. Subsequently, Chapter Ten discusses relevant implications for practice and directions for future research. To conclude, the chapter identifies limitations of the present research and suggests how these may be addressed in future work.

CHAPTER 2

LITERATURE REVIEW

CHAPTER 2. LITERATURE REVIEW

2.1 Introduction

The purpose of the chapter is threefold: First, the literature review establishes the theoretical scope underpinning this thesis and prepares the foundation for its theoretical contribution discussed in Chapter Ten. Second, this chapter presents one of the first attempts at *systematically reviewing and classifying existent research* approaches to risk and how companies deal with risk. Following a critical discussion of probability- and uncertainty-based conceptualisations of risk in Section 2.2, the chapter systematizes existing research into economic, behavioural and operational approaches to dealing with risk in Section 2.3. Considering the limitations of existing approaches to risk, the remainder of the chapter suggests the development of an alternative theoretical perspective to how companies deal with risk.

The alternative perspective to how companies deal with risk evolved through the iterative process of theory-data interaction and builds on the *synthesis of the business network and institution-based approaches* to risk. The network approach advanced by the Industrial Marketing and Purchasing (IMP) group provides an invaluable alternative ontological view of markets, which lays the foundation for a more accurate description of the locus of risk and how companies deal with risk in direct and indirect relationships. However, the network approach does not *explain* companies' use of concrete institutional devices such as industry standards, General Terms and Conditions, or contracts for dealing with risk. Therefore, this research draws on relevant concepts from institutional research to enhance our understanding of how companies deal with risk in business networks.

2.2 Defining risk

Defining 'risk' is not a straightforward exercise. There appear to be as many definitions of risk as attempts to study the phenomenon in different contexts. To complicate the matter further, there appear to be studies that take the definition of risk as given, and therefore not worthy of conceptual re-evaluation, or use the term 'risk' interchangeably with 'uncertainty' (Hallikas et al., 2004; Oke & Gopalakrishnan, 2009; Jung, Lim & Oh, 2011). Awareness of these problems is shared by key authors in the field of risk research across disciplines (Miller, 1992; Manuj & Mentzer, 2008; Maruchek, Greis, Mena & Cai, 2011a,b; Aven, 2012). To date there appear to be few attempts that have succeeded in addressing these problems despite its potential benefit: the development of a common basis for the comparison of assumptions and implications across existing and future research on risk. The following section introduces an attempt at reviewing existing research on conceptualising risk by differentiating between probability- and uncertainty-based approaches to risk.

Probability-based approaches to risk

Probability-based approaches to risk originate from seventeenth century research of applying mathematics to the process of gambling by French mathematicians Pascal and de Fermat (Kahn & Burnes, 2007). Their work laid the foundation for probability theory, which later influenced economic research and the famous work of Frank Knight (1921). Knight conceptualizes risk – as distinct from uncertainty - as a “known chance” (p.21), or as future events and outcomes with *known probabilities*. The probability-based approach underpins most research on risk in the fields of finance and operations management (see, for example, Harland, Brenchley & Walker, 2003; Khan & Burnes, 2007) with one of the most cited definitions originating from Brindley (2004, p.18), who defines risk as the “probability (of events) \times business impact”.

What is the contribution of probability-based research on risk? Probability-based research on risk has generated various risk categorization tools, which typically distinguish between: (a) *risk source* (Das & Teng, 1999; Kleindorfer & Saad, 2005; Oke & Golapakrishnan, 2009); (b) *impact or loss* (Harland et al., 2003; Cavinato, 2004; Sheffi & Rice, 2005); or (c) *severity* (Hallikas et al., 2004; Brindley, 2004) or consider all three (Chopri & Sodha, 2004; Hendricks & Singhal, 2003, 2005; Wagner & Bode, 2006). Based on categorizations of risk, the probability-based research produced a considerable body of risk management frameworks (for example, Christopher & Lee, 2004; Blackhurst et al., 2005). A common characteristic of such frameworks is the development of a (linear) risk management process, including risk identification, analysis, control and evaluation (Kahn & Burnes, 2007; Knemeyer et al., 2009).

While conceptualising risk in probabilistic terms remains useful for statistical modelling, this approach shows limitations when applied in the context of how companies deal with risk: First, even if it is technically possible to identify probabilities of ‘all’ potential risks, ultimately, companies may not have the capacity to process this data. As Mousavi and Gigerenzer note, “the knowledge of how people *should* make decisions cannot be studied without considering how people are *able* to make decisions” (2014, p.1627, emphasis added). Behavioural research has repeatedly demonstrated the influence of bias in distorting mathematically-derived probabilities. Beck (1986, p.30) supports this observation in maintaining that “what becomes clear in risk discussions are the fissures and gaps between scientific and social rationality in dealing with the hazardous potential”. A similar observation underlies Watkins’ and Bazerman’s work on ‘predictable surprises’, which happen “despite prior awareness of all of the information necessary to anticipate events and their consequences” (2004, p.1).

Second, risk in strategic interactions between more than two purposeful actors evades accurate probability assessment, because probabilities are ‘snapshot measures’ assigned to future events at one point in time. Hence, in a context where risk arises from continuous interaction with multiple known and unknown actors, probabilities would need to be

continuously adjusted. This is prohibitive in terms of time and cost, and was recognised by Knight (1921) almost a century ago.

Third, assigning probabilities presupposes that risk is a discrete event and overlooks that companies often deal with multiple, inter-related risks simultaneously. Instead of occurring as discrete events, risk may manifest as a disorganized sequence of contingencies that can migrate geographically. The danger of probability-based approaches lies in promoting a particularist view that may isolate attention to specific events.

Fourth, approaching risk as events with knowable probabilities promotes the view of risks as 'extant' threats that companies can anticipate, unilaterally attack and cope with by means of implementing sophisticated risk-management systems. However, real-life risks rarely behave linearly and few contemporary risks can be mitigated through unilateral action.

Finally, this approach implies that risk can be objectively defined. However, probability- even in its simplest dictionary definition – remains "a measure of the degree of *confidence* one may have in the occurrence of an event" (Collins Concise English Dictionary, emphasis added). Confidence varies among actors, suggesting that probabilities may not be 'objective' but contested measures of risk. Contesting probabilities of events is known as 'epistemic uncertainty' (Dequech, 2004), which refers to the uncertainty about probabilities.

Uncertainty-based approaches to risk

Uncertainty-based approaches have been advanced in institutional and sociological treatments of risk (Beck, 1989; Zinn, 2008). 'Uncertainty' in management research refers "to the unpredictability of environmental or organizational variables...or the inadequacy of information about these variables" (Miller, 1992, p.312). Uncertainty arises from the "complexity of problems to be solved and the problem-solving software (to use a computer analogy) possessed by the individual [actors]" (North, 1990, p.25). Complex, incomplete, or ambiguous information regarding actors' future interactions may confront companies with the need to engage with their counterparts (suppliers, customers, or even competitors) under conditions of uncertainty (Ford & Mouzas, 2010). In this context, uncertainty refers to the limited capacity to reliably predict the courses of future (inter-)actions. In relation to risk, uncertainty refers to the very inability to develop, assign and make decisions based on probabilities identified for discrete events. Risk therefore arises from the *state of uncertainty over future events with potentially negative impacts*. One of the most influential contributions in advancing the uncertainty-based understanding of risk originates from the recent change to the ISO Guide 73 on 'Risk Management'. The recent revision of ISO31000 in 2009 witnessed a controversial change in the definition of risk, changing from "chance or probability of loss" to "the effect of *uncertainty* on objectives" (emphasis added).

In management research, the uncertainty-based approach has gained sporadic attention (McGoun, 1995; Klijn & Koppenjan, 2004; Mousavi & Gigerenzer, 2014) but has generated significant controversy over the validity of probability-based approaches in a business context. Mouasvi and Gigerenzer (2014, p.1572) capture this debate in 'Risk, uncertainty and heuristics':

"Do we live in a world of [probability-based] risk? At the roulette table, yes; in the world of business, rarely. Observe, however, that most of decision theory is based on a risk characterization of the uncertain world. But can [probability] risk-based rules successfully apply to a world of uncertainty? It depends. The structural difference between risk and uncertainty calls for *rules of dealing with uncertainty* that are not compatible with risk calculations unless uncertainty can be reliably reduced to a form of risk. Unique situations, uninsurable risk, and lack of properties that satisfy mathematics of probabilities are all cases in point" (2014, p.1672, emphases added).

As uncertainty cannot be '*reliably reduced to risk*', so is replacing the term 'risk' with 'uncertainty' not a viable option. Why? Because the concept of risk has important staying power: First, it has been repeatedly established that human cognition cannot act upon 'fundamental uncertainty' and that we rely on risk as a "specific form of managing uncertainty" (Zinn, 2008, p.172). The concept of 'risk' appears as a heuristic for coping in an uncertain world. Second, uncertainty per se merely refers to the '*state of lacking certainty*', which does not capture *impact* - a crucial element of risk.

Therefore, it is vital to understand that risk and uncertainty *are not interchangeable*: *Reducing uncertainty to risk* leads to the isolated treatment of selected risks at the peril of overlooking other relevant risks. And collapsing *risk into uncertainty* overlooks a key purpose of dealing with risk: the mitigation of *impact*. As a result, risk in the context of this thesis refers to the combination of uncertainty and impact (Miller, 1992; Zsidisin, Melnik & Ragatz, 2005). This definition challenges ingrained thinking on risk and uncertainty as two disparate concepts, which originates from the perpetuated and uncritical adoption of Knight's (1921) famous distinction between the two concepts without full consideration of his *caution* expressed regarding the limitations of probability-based risk approaches in a business context.

Conceptualising risk as a combination of uncertainty and impact is particularly relevant in understanding how companies deal with risk in business networks:

First, the uncertainty-based approach to risk captures the observation that companies may not anticipate all relevant risks, their location or timing in advance. Uncertainty encapsulates that companies face risks that may occur *not one at a time* and in *sequence*, but in hardly predictable patterns. Additionally, this approach addresses the dynamics of risk that may migrate across space and time and, hence, impact companies that appear 'distant' from the

original locus of risk. As a result, the uncertainty-based approach recognises that risk in modern business evades assumptions of linearity and sequential interaction.

This is a critical conceptual turn, because it facilitates the practical shift away from the “management of dangers to the examination of different forms of uncertainty management” (Zinn, 2008, p.209). Hence, adopting the uncertainty-based approach requires the consideration of means for dealing with risk in business networks that are *fit for addressing uncertainty*, not discrete events with ex-ante known and stable probabilities. Since dealing with uncertainty in complex interactions with complex tools reflects ‘fighting fire with fire’ (Haldane, 2012), it is worth considering recent research directing our attention to “*simple rules*, which may outperform complex algorithms in real world situations” (Mousavi & Gigerenzer, 2014, p.1671).

Second, the uncertainty-based approach to risk recognizes interactivity: Risk in business networks often originates from actors’ uncertainty over the strategic future actions of their counterparts, or their counterpart’s counterparts, and the respective impact these actions may have on the actors’ resources. This interactive nature of risk evades probability thinking, especially when more than two actors are involved and game theoretical approaches become prohibitively complex and impractical. Accounting for interactivity in dealing with risk requires corresponding choices in the unit of analysis: Instead of focusing on a single company, different levels of network interaction must be considered.

Third, uncertainty-based approaches to risk reflect more accurately the dynamics observed in complex systems such as business networks. Complex, self-organising systems approximate the characteristics of chaotic rather than mechanistic systems: Complex systems display orderly disordered *self-organizing* “patterns of behaviour unfold[ing] in irregular but similar forms” (Burnes, 2004, p.314). In contrast, probability-based approaches built on “prescription and prediction imply perfect knowledge of the interrelationships between variables and their dynamics over time that we do not have” (Thietart & Forques, 1995, p.28).

The above discussion has explained why the uncertainty-based approach is more feasible in informing our understanding of how companies deal with risk in business networks: Companies operating in business networks of embedded direct and indirect relationships face nearly infinite combinations of strategic interactions that cannot always be reliably predicted in probabilistic terms. Actions may change in light of others’ *anticipated* actions, which constantly influences future courses of *inter-action*. Probabilities assigned at one point in time may lose validity after a certain set of interactions take place. Probabilities are ‘static’ but interaction is dynamic. Yet, simply collapsing risk into uncertainty would gloss over the crucial difference between risk and uncertainty: Risk is inextricably linked with *impact*, whereas uncertainty describes a state of ambiguity and limited knowledge of future events without

concern for impact. Hence, collapsing risk into uncertainty would lead us to ignore the key purpose of *why* companies are invested in dealing with risk: to mitigate risk impact.

2.3 Current approaches to dealing with risk

Building on the above conceptualisation of risk, this section systematically reviews existent economic, behavioural and operations research concerned with the question “How do companies deal with risk?” This classification is based on the distinctive means for dealing with risk identified within each approach, and not merely differences in conceptualising risk. While certain risk conceptualisations predominate within one particular approach, there is limited consistency in the application of a single conceptualisation, even *within* one field. Considering the limited research on dealing with risk in the business marketing context, the objective of this section is to assess the potential of each approach in enhancing our understanding of how companies deal with risk in webs of inter-organizational relationships.

2.3.1 The economic approach

Modern understanding of the economic approach to risk appears synonymous with statistical manipulation of probabilistic risk measures. However, this view conceals one of the most remarkable shifts in economic thinking about risk that culminated in vigorous debates over the validity of probability-based approaches to risk in the first half of the 20th century (Bernstein, 1998; McGoun, 1995; Boy, 2015). While one group of economists, including Keynes, Knight, Hardy and Fisher - trained in the school of American institutionalism - advocated uncertainty-based approaches to risk, a growing number of economists trained in statistics cemented the path for probability-based approaches to risk. While the implications of this debate are rarely revisited, they often significantly frame today's understanding of risk and risk management tools in several fields of research.

The shift from uncertainty to probability-based approaches to risk is often attributed to von Neumann and Morgenstern's *Theory of Games and Economic Behavior* (1944), which offered the first formal incorporation of risk as a measurable probability into a “predictive theory of choice under uncertainty” (Boy, 2015, p. 5). ‘Game theory’ marked the establishment of statistical approaches to modelling risk over advocacy for a more sociological approach to risk in business contexts.

For the first time, game theory transformed the understanding of uncertainty as not merely limited to ‘external events’ but as attributed to the “*true source of uncertainty to the intentions of others*” (Bernstein, 1998, p.232), arguing that such uncertainty can equally be calculated and forecasted as a series of events with known probabilities. Despite the success of game theory research, Morgenstern himself notes the limitations of this breakthrough in the application of predicting business interactions in multi-actor settings: “Consumers, business managers, and policy-makers, [Morgenstern] argued, all take such predictions into

consideration and alter their decisions and actions accordingly. Hence, statistical methods in economics are useless except for descriptive purposes" (Bernstein, 1998, p.236).

Moreover, Morgenstern insisted that no one "can know what everybody else is going to do at any given moment: 'Unlimited foresight and economic equilibrium are thus irreconcilable with each other'"(Bernstein, 1998, p.236). Morgenstern's stance generated approval from Frank Knight, who was one of the strongest proponents of the uncertainty-based approach in the business context. Knight shared this view with other economists, including Keynes (1921), Hardy (1923) and Fisher (1930). Closer reading of these economists reveals an unambiguous rejection of probabilistic risk measurement; they saw it as having "insurmountable problems [...] that would have to be ignored in making such a foolish simplification" (McGoun, 1995, p.513-520). While a critique of the statistical assumptions limiting the application of probabilistic risk measures is spared at this stage (see, for example, Bernstein, 1998), it is worthwhile revisiting why a probabilistic measurement was opposed in application to business contexts. Knight (1921, p.231) argues that:

"[b]usiness decisions, for example, deal with situations which are far too unique, generally speaking, for any sort of statistical tabulation to have any value for guidance. The conception of an objectively measurable probability or chance is simply inapplicable."

Knight's call for economic treatment of risk to bear "fidelity to the actual psychology [...] the situation requires" (1921, p.227) is echoed by his contemporaries, suggesting that "calculations of mathematical probabilities are seldom of much importance in actual business" (Hardy, 1923, p.29). Similarly, Fisher maintains that "[w]hile it is possible to calculate mathematically risks of a certain type, like those in games of chance, most economic risks are not so readily measured" (1930, p.316).

From the 1930s, the concern of 'insurmountable problems' of probabilistic risk measurement was silenced, as critics labelled such concerns 'uneconomic', suggesting that "economic theory of profit should be based on economics and not on metaphysics and psychology" (Hicks, 1931, p.171). Moreover, this period witnessed an increased replacement of economists trained in "non-mathematical American institutionalism" (McGoun, 1995, p.519) with trained statisticians who ventured into economics, reigniting the idea of probabilistic risk measurement. The long-term implications of the 'victory' of probabilistic measurement of risk resulted in the marginalization of "the vocabulary of *genuine uncertainty, rules and norms* that were still a common interest of Keynes and Hayek" (Kessler, 2007, p.118, emphases added) and the uncritical adoption of probability-based risk approaches across several disciplines.

Justifying the use of probabilistic risk measures often implicitly reflects Domar and Musgrave's (1944, p.393-394) view, who admit to using it:

"[...] in absence of a better approach... Objections maybe raised to this assumption, as in fact, they may be raised against most any feature of

the 'homo economicus'. For purposes of this paper, which does not discuss risk theory as such, the probability method is adopted, because no satisfactory alternative approach to the subject of risk theory has been developed."

Two Nobel-prize winning studies, modern portfolio theory (Markowitz, 1952) and capital asset pricing (Sharpe, 1964), advanced "the institutionalization of the probabilistic measurement of risk in finance and accounting" (McGoun, 1995, p.514), and simultaneously marked the genesis of modern finance theory. It is revealing that Bernstein (1998) leaves the discipline of economics in the 1950s and moves to finance when charting the history of risk in his book *Against the Gods*. For a similar reason, this section reviews the economic and financial approaches to risk together. As modern finance took the lead in becoming "*the science of the quantification of uncertainty*" (Boy, 2015a, p.6, emphasis in original), the probabilistic measurement of risk permeated research in other business fields, including operations and supply chain research.

How has the probabilistic approach to risk in economics and finance research shaped the understanding of how companies *deal* with risk? At the heart of economic and financial tools for dealing with risk lies the principle of value maximization: Value is measured as profit and quantified as 'utility'. To maximize value, actors rely on risk hedging techniques such as portfolio diversification, capital asset pricing, or scenario planning. Markowitz's seminal study on 'Portfolio Selection' (1952) systematizes investments by distinguishing between risk values of individual stock and entire portfolios. The objective is to diversify assets and associated risks by balancing the covariance of assets. Despite its significance, 'portfolio selection' is often critiqued on the grounds of its assumptions¹, which include: (a) actors' rationality; (b) volatility as risk proxy; (c) reliance on past data; (d) negligence of self-referencing behaviour.

Human rationality has been widely critiqued as a distortive assumption underpinning risk research in economics and finance, and research of systematic deviations from rational behaviour in decision-making under uncertainty became a discipline of its own, called 'behavioural economics'.

Volatility, as a proxy for risk, replaces in finance and economics research the notion of *impact*. However, the 'volatility' concept overlooks that risk becomes important to business actors *only* in conjunction with *impact*. Risk impact is inextricably linked to actors' *possession of resources*, whereas "volatility per se, be it related to weather, portfolio returns, or the timing of one's morning newspaper delivery, is simply a benign statistical probability factor that *tells*

¹ The above critique leaves out complicated statistical assumptions and associated technical problems resulting from the need to generate *accurate* estimates of input data, including expected return, variance and co-variance. For details of a discussion of probability-theory assumptions in relation to risk, please see Bernstein, 1998 (pp. 48-52; 58-67) or Kessler, 2007 (pp. 115-118).

us nothing about risk until coupled with a consequence" (Robert Jeffrey, 1995, quoted in Bernstein, 1998, p.261, emphasis added). Such 'consequence' is only of interest if it has an impact on (the value of) resources that actors possess: as Knight remarked, quoting Clark (1921, p. 38): "No man can carry risk who has nothing to lose". This phrase summarizes the inextricable link between risk and resources. In turn, it implies that the ultimate aim of dealing with risk is the *protection of resources* from damages.

Reliance on past data as proxies for future risks does not account for two caveats: First, actors may learn from experience and introduce measures to deal with similar risks in future. Second, past data raises the reference-class problem, which has been already critiqued by Haynes (1895) and Knight (1921). The reference-class problem describes situations where "there are economically important circumstances that are perceived as risky, but that are also perceived as being without relevant historical precedent" (McGoun, 1995, p.515). Knight (1921, p.226) maintains that:

"[any] given 'instance'...is so entirely unique that there are no others or not a sufficient number to make it possible to tabulate enough like it to form a basis for any inference of value about any real probability in the case we are interested in. The same obviously applies to the most of conduct and not to business decisions alone".

Self-referencing behaviour refers to dynamics where changes in behaviour to hedge against identified risk by one actor lead to a change in the behaviour of other actors. The impact of one actor's behaviour on the future course of events evades foresight, based on past data probabilistic calculations. This critique echoes Knight's observation (1921, p.237) that "[a]t the bottom of the uncertainty problem in economics is the forward-looking character of the economic process itself."

To avoid the reference-class problem, 'scenario planning' is a tool developed in finance research that suggests conquering "the unknown by means of imagination" (Boy, 2015, p. 23). Scenario planning does not aim for statistical precision, but focuses on developing plausible future narratives depicting responses to potential risks. Questions raised by this approach include: How many scenarios are 'enough'? How are scenarios 'ranked' and how can companies justify investments in measures to address 'imagined' scenarios? Considering the complexity of business networks, numbers of actors and diversity of resources, the question arises: How many risks can a company realistically anticipate, *ex ante*? And how useful is it to plan for risk responses unilaterally when confronted with an almost unlimited number of future scenarios?

The critical reflection on some of the key approaches to dealing with risk developed in economics and finance research highlights the limitations of transferring such tools to try and understand how companies deal with risk in business networks. Specifically, economics and finance research relies on the assumption that: (a) risk can be precisely pinpointed in advance

and addressed through unilateral action; (b) actors can act upon rational probability calculations; and (c) it is sufficient to consider individual actors as units of analyses. The probabilistic approach to risk has explicitly or implicitly permeated most business and management research on risk, which has profound implications for the predominant research methods and 'tools' suggested for dealing with risk. Similarly, key tools such as portfolio selection and scenario planning are translated in operations and marketing research in the form of product, market, or supplier diversification. To summarise, McGoun's observation holds true that despite significant critiques of probabilistic approaches, "risk continues to be 'measured' in a 'common sense' way it was once known made no sense" (McGoun, 1995, p.514).

2.3.2 The behavioural approach

The behavioural approach (also referred to as 'behavioural economics') to dealing with risk builds on the seminal works of Kahneman, Tversky and Thaler, among others, and encompasses to date a wide field of research concerned with cognitive psychology's and neuroscience's implications for understanding human decision-making under conditions of uncertainty and risk. While the discussion of economic and finance approaches to risk highlights how actors should make decisions under 'uncertainty-as-risk', based on assumptions of rational behaviour, the behavioural approach investigates individuals as subject to *systematic biases and heuristics*.

Interest in the influence of cognitive biases on decision-making under risk was sparked in 1979, when Kahneman and Tversky published *Prospect theory: An analysis of decision under risk*. Prospect theory highlights individuals' susceptibility to biases such as reference dependence, loss aversion, non-linear probability weighting and diminishing sensitivity to gains and losses when making decisions under uncertainty. Such biases distort predictions made under assumptions of rationality, as individuals may overweight small and underweight large probabilities, or expose a remarkable aversion to loss. Asymmetry between individuals' evaluation of potential future losses over future gains is one of the most remarkable findings of prospect theory. Tversky suggests that individuals are not so much *risk averse* as they are *loss averse*, and Bernstein adds that individuals hate not so much *uncertainty* as they *hate losing* (Bernstein, 1998, p.274).

Hate for loss or damages to possessions underpins the 'endowment effect' (Thaler, 1980; Kahneman, Knetsch & Thaler, 1990), which refers to actors ascribing more value to resources they already own. This finding may explain why individuals and companies actively invest in mechanisms to reduce the negative *impact* of risk in terms of damages to resources, that is: *loss*. This finding also illuminates why it is crucial to consider *impact* when conceptualising risk. Relying on 'volatility' or 'uncertainty' *in place* of risk overlooks the *driving force behind individuals and organizations' efforts in dealing with risk*: the *protection of resources from loss*.

The behavioural approach takes the individual as the main unit-of-analysis and relies primarily on experimental research to understand cognitive biases and heuristics that systematically affect human decision-making. While biases refer to cognitive distortions in perceiving and processing information, which leads to systematic deviations from rational decision making, heuristics refer to the (un-) conscious use of various 'rules of thumb' in decision making under uncertainty. Some of the most well-researched heuristics include the tit-for-tat heuristic (Axelrod, 1984), the recognition heuristic (Goldstein & Gigerenzer, 2002), the 1/N rule (DeMiguel et al., 2009) or the default heuristic (Johnson & Goldstein, 2003). Heuristics become powerful tools in decision making, because uncertainty in real-world situations is not reducible to calculated risk, and because complex, uncertain situations call for simple and robust solutions. Mousavi and Gigerenzer (2014, p.1673) maintain that heuristics help solving "complex uncertain situations precisely because of their simplicity, not despite it."

Although the behavioural approach mostly focuses on individual cognitive processes, and the current research requires elevating the study of how companies deal with risk to a higher level of aggregation, there are two insights worth reiterating: the importance of considering 'loss' or 'impact on resources' and the direction of looking at *simple rules* as a means for dealing with risk.

2.3.3 The operational approach

The operational approach captures research from the fields of supply chain, logistics, production, manufacturing and procurement in order to understand the sources and impact of risk that companies face and the associated tools that companies (should) use to deal with these risks. The operational approach is characterised by mainly adopting a single actor unit-of-analysis and a probabilistic conceptualisation of risk, which leads to a variety of risk categorisation frameworks (Jung, Lim & Oh, 2011). Risk categorisation typically considers: (a) risk as *events* based on different probability-categories depicting *severity* (i.e., low – medium – high) (Hallikas et al., 2004; Brindley, 2004); (b) risk *source* (Das & Teng, 1999; Svensson, 2002; Kleindorfer & Saad, 2005; Oke & Golapakrishnan, 2009); (c) risk *impact* (Harland et al., 2003; Cavinato, 2004; Sheffi & Rice, 2005) (d) or a combination of the aforementioned (Chopri & Sodha, 2004; Hendricks & Singhal, 2005; Wagner & Bode, 2006).

While 'risk management' is a key term summarising operational approaches to dealing with risk, its assumptions and implications are rarely questioned. Yet, 'risk management' implies the possibility of *control* over the environment as well as independence and power over specific events being managed. Moreover, the term implies that risk is managed by an active actor, who can assume unilateral action and impose risk management strategies upon a faceless, or rather, hostile environment in order to reduce impact. Finally, 'risk management'

strategies often resemble linear, almost generic step-by-step management models, such as those proposed by Narasimhan and Talluri (2009, p.116, emphases added), who outline:

“[...] four critical steps...: *identification* of key supply chain locations and threats, *estimation of probabilities* and loss for each location, *evaluation of alternative countermeasures* for each location, and *selection of countermeasures*...”.

Similar risk management models maintain strong interest among academics (see, for example, Oke & Gopalakrishnan, 2009; Knemeyer et al., 2009; Jung, Lim & Oh, 2011) and consultants (see, for example, McKinsey Working Papers on Risk, 2007-2013). However, the finance-inspired conceptualisation of risk as ‘discrete events’ attracted criticism in suggesting that such a view may encourage the *mismanaging* of risk. Stulz argues in his paper, *Six ways to mismanage risk* (2009), that reliance on historical data, focus on measures addressing *one* risk, and failure to manage risk dynamics are primary causes for mismanagement. Failure to account for risk dynamics appears as a direct consequence of conceptualising risk as discrete events and illustrates a case where academics and practitioners alike may “force the methods [or theoretical assumptions] to shape the subject matter rather than the subject matter to determine, or at least to suggest, the methods” (McGoun, 1995, p.520).

To conclude the review of existing approaches to ‘dealing with risk’, the following section summarizes the limitations of these approaches and derives implications for the thesis’ research questions. The chapter proceeds with discussing the need for a new perspective that draws on the synthesis of the business network and institution-based approaches to risk.

2.4 Limitations of current approaches to dealing with risk

The review of economic, behavioural and operational approaches reveals two limitations, which influence our understanding of how companies deal with risk: First, *risk* is predominantly treated as *an expected, single and isolated event with knowable probabilities*. Second, the *predominant unit-of-analysis is the single actor* and its respective ‘actions’. Favouring this unit-of-analysis originates from the (implicit) assumption of ‘methodological individualism’ (Hodgson, 1993, p.54) that demonstrates “remarkable optimism about the possibility of the explanation of social phenomena in terms of individual [actors and actions] ... The individual is taken as given, facing the world outside and reacting to it” (*ibid.*).

Methodological individualism is not only a methodological, but also an ontological assumption that may significantly limit the research outcomes’ relevance and implications. Empirical observations of real-life events such as the horsemeat incident (2013) or General Motors’ car recall (2014) expose levels of complexity that question the validity of probability-based conceptualisations of risk and the capacity of single actors in addressing risk. Considering instead that risk emanates from the embeddedness of companies in complex webs of interactions implies the need to *look beyond single actors* and to consider actors’ *interactions*.

In response to these two limitations, this research takes the following steps: First, acknowledging the critique of probability-based approaches to risk, this research adopts a conceptualisation of risk that considers the interrelation of uncertainty and impact (Zsidisin, Melnyk & Ragatz, 2005). Second, this research adopts a multi-level unit-of-analysis that enhances our understanding of how companies deal with risk at the network, focal and dyadic levels of *interaction*.

2.5 The need for a new perspective

Addressing the limitations identified in existent research on risk, this thesis argues for the need to consider a new perspective that draws on the synthesis of the network and institution-based approaches to dealing with risk in business marketing. The network approach functions as an analytical lens that captures the *connectivity between actors and the environment* and highlights the actors' *interdependency and embeddedness in direct and indirect relationships*. This perspective acknowledges that risk in business networks is inextricably linked with the embeddedness of companies, activities and resources, which precludes any one company from effectively dealing with risk unilaterally.

This perspective provides the groundwork for a more accurate understanding of companies' efforts in dealing with risk, because it: (a) facilitates the identification of risks beyond a company's immediate horizon; (b) captures how risk migrates across a business network; and (c) illuminates how companies interact with multiple direct and indirect actors in dealing with risk. Interaction through direct and indirect relationships forms the building blocks of networks, which is reflected in the interdependent units-of-analyses in network research: dyadic, focal and network units.

However, while the network approach offers an invaluable alternative perspective on the ontology of business markets and helps in capturing more accurately the dynamics of risk, it does not *explain how* companies deal with risk in recurrent interactions. Therefore, this research complements the network approach with insights from institutional research. Institutional research contributes to explaining how companies deal with risk in direct and indirect business interactions by shedding light on the use of institutional devices such as standards and contracts.

It is worth reiterating that the *conceptual contributions of the business network approach* to capturing the connectivity and dynamics of risk in business interactions, and the contribution of the *institution-based approach towards explaining* the use of institutional devices in dealing with risk, are most promising in their *combination*, rather than isolation, from each other. Since previous network and institutional research appears to have proceeded on parallel trajectories with few deliberate intersections, and even fewer attempts focusing on *risk*, the following sections argue for a synthesis of network and institutional research to enhance our theoretical and empirical understanding of how companies deal with risk. To achieve this, the

following sections start by introducing key concepts from network and institutional research. Following this, the chapter presents a synthesis mapping our current understanding of how companies use institutional devices for dealing with risk in dyadic, focal, and network interactions.

2.5.1 The network approach to risk

The business network approach advanced by the Industrial Marketing and Purchasing Group (IMP) since the 1970s provides an alternative view of markets that departs from traditional assumptions of completeness, independency, action and equilibrium, which underpin existent research on risk in business studies. Instead, this approach offers conceptual tools for capturing the complexity, interdependency and dynamics of direct and indirect business interactions in international markets (Paliwoda, 2011). Adopting the network approach to investigate how companies deal with risk allows this research to move beyond the single company or direct relationship as the exclusive units-of-analysis that characterise existent research in this field.

The term 'business network' is a metaphor to describe markets as complex webs of interdependent direct and indirect relationships between actors. Relationships are the building blocks of networks that connect actors, resources and activities (Holmlund & Törnroos, 1997). Business networks are not lifeless, static structures or a mere 'context' for business interactions, but complex systems that refute "many of the core concepts of the rational planning approach simply by emphasizing that a firm cannot act on its own since its actions are necessarily influenced by the actions of others in the network" (Baraldi et al., 2007, p.883). Regarding risk, the network approach suggests that companies are unlikely to engage in unilateral processes of "environmental analysis and strategy development followed by strategy implementation by one company in isolation from the firms around it" (*ibid.*), because networks are characterised by *interdependency* and *interaction*.

The network approach draws its conceptual power from articulating a view of markets that refutes three dominant myths: the myth of independence, the myth of action and the myth of completeness (Ford, Gadde, Håkansson & Snehota, 2002).

The *myth of independence* questions the assumption that a

"company is able to act independently. It can carry out its own analysis of the environment in which it operates, develop and implement its own strategy based on its own resources, taking into account its own competences and shortcomings" (Ford et al., 2002, p.5, emphasis in original).

Instead, the network approach suggests that companies are irredeemably intertwined with the performance of other, directly and indirectly connected network actors. Companies may possess a restricted understanding of their surrounding network and have "limited freedom to act independently, and the outcomes of their actions will be dependent upon the actions of

other firms within that network" (Baraldi et al., 2007, p.885). While business relationships form the basis of a company's operations, these relationships may be simultaneously *enabling and restricting*. While a company may choose and define its relationships, it is also *defined by* those relationships (Ford et al., 2002). Interactions and interdependency with other actors are indispensable to access and exchange resources, because 'no business is an island' (Håkansson & Snehota, 2006). This inherent need for interaction builds on the Hayekian problem of resource dispersion (1945, p. 519): the problem "that knowledge of circumstances of which we must make use never exists in concentrated or integrated form, but solely as dispersed bits of incomplete and frequently contradictory knowledge, which all separate [actors] possess."

While the second *myth of action* "sees business as a process of action by one company in relation to another" (Ford et al., 2002, p.1), the network approach emphasizes a company's embeddedness in direct and indirect relationships that enable and constrain its activities. Håkansson and Snehota developed this argument in *No business is an island* (1989), stating that a company's performance:

"by whatever criteria [it is] assessed, become[s] dependent not only on how well the organization itself performs in interaction with its direct counterparts, but also on how these counterparts in turn manage *their* relationships with third parties. An organization's performance is therefore largely *dependent on whom it interacts with*" (Håkansson & Snehota, 1989, p.190, emphasis added).

Moreover, every company faces restricted freedom to 'act' because networking involves anticipation, action and reaction to others' actions, who in turn react to other actors' (anticipated or realized) actions. This, however, does not disregard the fact that power (asymmetry) and striving for control in business interactions matters.

The third *myth of completeness* questions the assumption that each "company is self-sufficient and is able to develop a strategy that marshals its *own* resources into a unique approach based on its *own* internal competencies and shortcomings" (Ford et al., 2002, p.2). In contrast to key assumptions advanced in research, assuming the resource-based-view (RBV, see Barney, 1991, 2001), the network approach argues that no single company possesses *all* relevant resources to be able "to satisfy requirements or solve the problems of any other and so is dependent on the skills, resources and actions and intentions of suppliers, distributors, customers, or even competitors to satisfy those requirements." (Ford et al., 2002, p.2).

Acknowledging the myths of independence, action, and completeness demonstrates that business networks are not static, but *complex* systems of dynamic interactions (Gadde & Håkansson, 1992). Complex systems refer to:

"any system that has within itself the capacity to respond to its environment in more than one way. This essentially means that it is *not a mechanical system*

with a single trajectory, but has some internal possibilities of choice or response that it can bring to play" (Allen, 2001, p.150, emphasis added).

As complex systems, business networks expose five features (cf. McMillan, 2004, p.31), including:

- (a) Dispersed control throughout the network with no central controlling actor;
- (b) Co-occurring competition and co-operation;
- (c) Multiple, reciprocally interdependent levels of interaction;
- (d) Experience-based re-organization and change in actors' interactions;
- (e) Continuous interaction in anticipation of the (partly unknown) future.

As business networks do not follow a "linear reality" (Abbott, 2001), they resemble:

"...complex systems [consisting of] large numbers of independent yet interacting actors. Rather than ever reaching a stable equilibrium, the most adaptive of these systems...keep changing continuously by remaining at the poetically termed 'edge of chaos' that exists between order and disorder" (Brown & Eisenhardt, 1997, p.29).

To cope with the complexity of networking, companies actively engage in creating "an acceptable level of order and certainty" (Thietart & Foragues, 1995, p.24). Devising simple, order-generating rules, business networks "permit limited chaos whilst providing relative order" (Burnes, 2004, p.315). Under certain conditions, such order-generating rules can be subject to change, as actors decide to generate new, more effective "order-generating rules, when the old ones can no longer cope with the changes in the system's environment" (ibid.). While order-generating rules may operate at the network level, such rules may equally emerge in dyads: for instance, in the form of shared artefacts that "can serve the purpose of *creating islands of...certainty* and, as a consequence, a form of stability" (Thietart & Foragues, 1995, p.19, emphasis added). Such stability, however, does not imply a fixed-point equilibrium (Meyer, Gaba & Colwell, 2005).²

Recognising networks as complex systems of interdependent interactions illuminates why probability-based conceptualisations of risk in this context are futile. In networks, or as Hock (1999) suggests, 'chaordic' systems³, small variations in one interaction may result in

² Similarly to the assumption of rational actors, the equilibrium assumption originating from research in economics appears to more implicitly permeate research in business and management studies, particularly underpinning research on strategy and change. Meyer, Gaba & Colewell (2005, p.459) observe:

"...unlike economists, who articulate their equilibrium assumptions explicitly, many social scientists fail to recognize the concept's pervasive influences on their own theories and methods. While social scientists routinely disavow the economists' fiction of human beings as rational maximizers, they rarely challenge the equilibrium assumption. All too often, we forget that equilibrium is also a convenient fiction, and treat it instead as literal truth."

Equilibrium, as a desirable state of stability, is often portrayed as "the holy grail of managers, for stability mean[s] order and certainty in long-term planning success" (McMillan, 2004, p.86).

³Thietart and Foragues (1995, pp. 25-26), among others, suggest that non-linear dynamics and chaotic systems emerge when the number of system variables (i.e., actors) is equal to or greater

“monumental consequences...which could not have been predicted beforehand” (Thietart & Forgues, 1995, p.21). The table contrasts characteristics of risk as understood in network and operational (mostly probability-based) research:

Table 2.1. Network approach to risk. Developed from McMillan, 2004, pp.67, 72, 169

Network approach to risk	Operational approach to risk
Risk is...	
[Partly] unpredictable	Predictable
[Partly] uncontrollable	Controllable
Non-linear	Linear
Networked/distributed	Centralised
Multiple (potentially inapprehensible) causes and impacts	(Known or knowable) cause and effect relation
Highly connected	Limited connectivity
Holistic	Reductionist

Conceptually acknowledging the characteristics of risk in business networks raises important implications for this research: First, there is limited value in researching individual companies' response to risk. Instead, it is essential to reconsider the unit-of-analysis in order to investigate how companies deal with risk in *interaction* with other actors. Second, bearing in mind the change in the unit-of-analysis, it is less relevant to examine the application of *unilateral* risk-management tools. Instead, it is more promising to explore how companies deal with risk through devising order-generating rules that co-ordinate interactions in the face of risk. Third, to implement the aforementioned implications, conceptual tools are needed to capture the complexity of network interactions.

To capture network phenomena theoretically and empirically, this research adopts two of the conceptual tools developed by the IMP Group: The first conceptual tool presented below is the *Actor-Resources-Activities (ARA) model* (Håkansson & Johanson, 1992; Ford et al., 2003), which captures the interdependency and connectivity of network interactions. The second conceptual tool distinguishes between three interdependent levels of network analysis (Halinen & Törnroos, 1998), and in this way, allows moving beyond the single company unit-of-analysis.

It is worth reiterating at this stage that the network approach is understood as an alternative, ontological view of business markets and not as a way for dealing with risk. This research does not advocate the idea that “inter-organizational networks offer a flexible and rapid way to

than *three*. Chaos is likely to emerge when these actors are ‘highly coupled’ (i.e., closely interdependent) with each other.

cope with uncertainty" (Tikkanen & Halinen, 2003, p.2; Beckman, Haunschild & Philips, 2004), *because a 'network' per se is not a mechanism for dealing with uncertainty*. Rather, networks are a metaphor for a complex, social reality *within which* companies must interact and develop means for dealing with risk and uncertainty.

2.5.6.1 Network Actors, Resources and Activities

The business network conceptualisation developed by the IMP researchers Håkansson and Johanson (1992) captures network relationships as interwoven entities of actor bonds, resources ties and activity links (ARA):

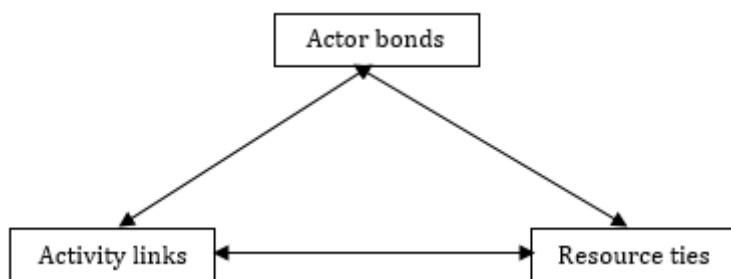


Figure 2.1. The Actor-Resources-Activities (ARA) model. Håkansson & Johanson, 1992, p.29.

Most alternative network models offer a one-dimensional view of network relationships by drawing on social network theory (Granovetter, 1985) - which primarily focuses on *actor* network nodes, with each node representing typically *individual* actors⁴ - and neglecting the interdependency with resources and activities.

The terminology of actor *bonds*, resource *ties* and activity *links* is important, because it refers to the *substance* of relationships not as *isolated*, but as *interactive entities*. Consequently, the concept highlights the intertwined nature of *economic and social* dimensions of business relationships and demands the consideration of actors, resources and activities *in combination* with each other (Finch, Wagner & Hynes, 2012). Furthermore, the ARA-model highlights that "many of the activities and resources on which the companies in a relationship depend are under the control or ownership of counterparts" (Ford & Mouzas, 2013, p.436). The interdependency of actors, resources and activities in business relationships should not dismiss the reality of business relationships rarely being symmetrical. Rather, "interaction is a self-serving process in which each actor seeks to address its own short- and long-term benefits" (Ford & Mouzas, 2013, p. 435). In fact, Hingley (2005, p.856) argues, with reference

⁴ This observation shall not diminish the immense contribution of Mark Granovetter's work on embeddedness and social network theories, as his research moved the discussion away from a neoclassical idea of markets, where actors were primarily seen as homogenous sums of buyers and sellers engaging in arm's length transactions (Biggart & Delbridge, 2004). Granovetter's social perspective of the market suggested instead that the substance of markets is heterogeneous social relations. Later work by White (1981), Burt (1982), and Baker (1984) established a structural stream of research demonstrating the significance of *actor* connections for understanding market phenomena.

to the European food retail industry, that asymmetry in business relationships, “is a more typical state than the existence of perpetual co-operation and power symmetry ... It is a natural desire for all organizations to gain advantage and to disrupt symmetry.”

The following sections examine the conceptualisation of actors, resources and activities:

Actor bonds: Actors can refer to companies, non-business organizations or individuals. Actors are understood as boundedly rational, self-interested and goal-oriented, continuously aiming to increase their control over the network (Håkansson & Johanson, 1992; Ford & Mouzas, 2013). Acknowledging actors’ purposeful behaviour illuminates that business networks are not governed by an ‘invisible hand’. Instead, there are multiple ‘visible hands’ that aim at implementing self-interested strategies and that develop relationships through repeated exchange practices (Ritter, 2000).

The notion of actor *bonds* implies that actors are “bonded together and are not usually entirely free to dissolve those bonds at will” (Easton, 1992, p.10). As bonds imply a measure of (inter-) dependence, actors are continuously confronted with issues of power and control over other actors, activities and resources. Direct control refers to ownership of resources, whereas indirect control refers to relationships with other actors, which may facilitate access to resources yet also generate *dependence*. The efforts of one actor to increase control over other actors is always accomplished at the expense of another actor’s control (Håkansson & Johanson, 1992). Actors tend to hold greater control of other actors who may operate in: (a) closer proximity; (b) more regular exchanges; and (c) over longer periods of time. Conversely, actors operating in *distant parts* of a network may not be even known to other actors who, nevertheless, indirectly depend on the use of their resources and/or activities. In this situation, actors may mobilize their power to *use direct relationships* to acquire greater control over indirect relationships.

In relation to risk in business networks, this conceptualisation of actors yields two important insights: First, a company’s necessarily limited knowledge of all potentially relevant network actors contributes to the inherent risk involved in business interactions. Hence, it becomes important to investigate how companies deal with risk through direct *and* indirect relationships. Second, actor bonds illuminate the need to consider means for dealing with risk in *interaction* with direct and indirect actors.

Resource ties: A widely adopted approach to conceptualising resources presents the resource-based-view (RBV) of the firm (Barney, 2001), which assumes that companies are *endowed* with resources. However, such an approach de-emphasizes the interaction involved in resource access, development and protection.⁵ Most companies experience limitations

⁵ A more elaborate comparison of the lines of convergence and difference between the resource-based- View (RBV) and the IMP conceptualization of resources is beyond the scope of this section. However, please refer to the paper by Baraldi, Gressetvold and Harrison (2012) entitled “Resource [40]

regarding resources they can claim direct ownership of, and therefore must mobilize a range of direct and indirect relationships with other actors to gain access to further resources. Business relationships are therefore a key resource in themselves, because they can be leveraged to gain access and facilitate resource (re-) combination (Baraldi, Gressetvold & Harrison, 2012b). Resource 'access', 'adaptation' and 'recombination' are rarely conflict-free, as the very *possession*, *access* and degrees of resource *adaptation* are contested and inextricably linked to power: "Organizations controlling more highly demanded resources, or that can reduce the most uncertainty about resource flows, typically enjoy greater power in any inter-organizational relationship" (Knoke & Chen, 2008, p.446). Conversely, the scarcer the resource, the more important becomes the control over it and "the more efforts will be spent on getting control over it" (Håkansson & Johanson, 1992, p.33). This may result in asymmetric dependency and expose the *liability of embeddedness* (Uzzi, 1997). While existent network research on resources appears to predominantly examine resources access and recombination (Finch, Wagner & Hynes, 2012), in the context of dealing with risk, *examining how actors protect resources from risk* becomes vital.

Activity links: Activity links form wider activity networks where "activities performed by one company build on activities performed by others and enter in those of some other actors" (Tikkanen, 1998, p.113). Activity links emerge from *repeated transactions* in which actors develop "routines and ... rules which give the activities a certain institutionalised form" (Håkansson & Johanson, 1992, p.31). As activity links manifest when "one or several actors combine, develop, exchange or create resources by utilizing other resources" (Håkansson & Johanson, 1992, p.30), activity links form *prime conduits for risk migration*: Disruptions in one activity link may trigger a domino-like effect influencing other, inter-dependent activities (Hertz, 1998).

Table 2.2 summarizes the implications from the above review of the ARA-model for examining how companies deal with risk in business networks:

Table 2.2. ARA-model implications for dealing with risk in business networks.

	Risk implications	Dealing with risk
Actors	Risk may originate from (inter-) actions of <i>directly and indirectly connected</i> , possibly distant and unknown actors	Dealing with risk involves interacting with direct and indirect actors across space and over time

interaction in inter-organizational networks: Foundations, comparison, and a research agenda", which provides an excellent comparative treatment of these two approaches.

Resources	Risk may have a <i>negative impact on resources</i>	Dealing with risk involves <i>mitigating impact on resources</i>
Activities	Interdependency and connectivity of activities facilitate <i>risk migration</i>	Risk may emerge beyond the horizon of direct activity links. Dealing with risk involves <i>interaction reaching beyond direct activity links</i> .

While the ARA-model presents a vital contribution to capturing the interconnectivity of actor bonds, resource ties and activity links, it is limited in capturing the embeddedness of direct and indirect network interactions. In this regard, the ARA-model is one-dimensional, because it does not conceptually differentiate between different levels of aggregation in network analysis. To address this limitation, the following section examines Halinen and Törnroos' conceptualisation (1998) of a company's embeddedness at three levels of network analysis: the dyadic, focal and network levels. This conceptualisation is revisited in more recent research (Halinen et al., 1999; Fletcher & Barrett, 2011; Öberg, Henneberg & Mouzas, 2012) and offers a valuable conceptual tool to inform our understanding of how companies deal with risk at three interdependent levels of analysis.

2.5.6.2 Network, focal and dyadic interactions

Understanding different levels of network analysis addresses the common failure in marketing research to "take a broad view of the network [that] make[s] the company vulnerable to dynamics that have their origin 'over-the-horizon' from its normal operations" (Ford et al., 2002, p.20). Considering three levels of network interactions acknowledges that "what happens at one level is difficult to understand without reference to what is happening simultaneously at lower and higher levels of aggregation" (Lomi, Negor & Fonti, 2008, p.328). In other words,

"industries cannot be adequately characterized by aggregating attributes of individual firms, and that firms' actions cannot be inferred or understood solely through analyses of industry-level data...Although the firm, network and industry [are] distinct units of analysis, ...changes occurring at different levels can be highly interrelated" (Meyer, Brooks & Goes, 1990, p.107).

Existing research acknowledges how processes at one level of analysis – for instance, in dyads -influence focal or network interactions and vice versa (see, for example, Hertz, 1998; Halinen, Salmi & Havila, 1999; Harrison & Easton, 2002; Johnston, Peters & Gassenheimer, 2006; Veal & Mouzas, 2011). As the different levels of network interaction appear *co-constitutive* of each other (Easton, Lenney & Gilchrist, 2012), it is not sufficient to focus on one level of analysis when investigating how companies deal with risk in business networks. Since the "whole is implicated in the parts [i.e., dyads] in two senses – it emerges from them and it acts back upon them – though the full implicative force can only be grasped *over time*" (Archer, 2010a, p.246, emphasis original), it is essential to understand how companies deal with risk in dyadic, focal and network interactions.

Dyadic interaction: Dyadic interactions denote direct relationships between two actors, as conceptually illustrated below:

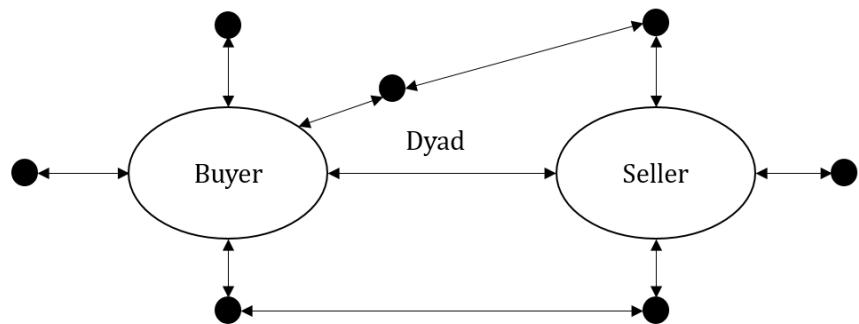


Figure 2.2. Dyadic interaction. Adapted from Halinen & Törnroos, 1998, p.192.

Understanding dyadic interactions “forms the prerequisite of the management of all the other ...layers” (Möller & Halinen, 1999, p.417). To date, dyads form the preferred unit-of-analysis in business network research, due to its nuclear importance and relative ease of delimitation (Holmlund, 2004). The nodes surrounding the key actors in Figure 2.2 highlight that the dyadic relationship “cannot be managed in isolation from the other relationships a firm has, and represents a conduit to other relationships through which resources may be accessed” (Easton, 1992, pp.25-26).

Focal interaction: Focal interaction considers several actors who share a *direct* connection to a focal actor. The focal level is useful in bridging the extremes of dyadic and network interactions by capturing all direct and indirect relationships that “the focal firm is able to identify in a broader network of actors and relationships between them” (Tikkanen, 1998, p.114). Focal nets can be simple or very complex, and display different levels of power asymmetry between actors.

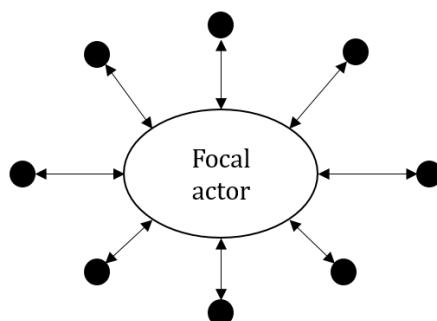


Figure 2.3. Focal interaction. Adapted from Halinen & Törnroos, 1998, p.192.

To illustrate, consider the case of Wal-Mart: With over 100 000 suppliers, Wal-Mart purchases over 80 per cent of its stock in China and serves 245 million customers per week in 27 countries (Wal-Mart Annual Report, 2013). With investment in a complex governance system, Wal-Mart functions as a ‘focal actor’ who orchestrates a globally distributed and highly embedded network of actors that behaves “almost like a single firm” (Arkansas Business, 2012). In cases with a clearly identifiable dominant actor, mapping focal interactions is useful to bridge the dyadic and network perspectives.

Network interactions: Network interaction captures the interdependency between a number of focal interactions that may be directly or indirectly connected with each other.

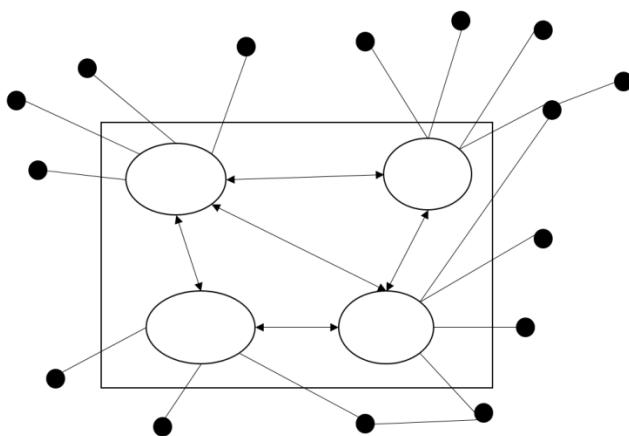


Figure 2.4. Network interaction. Adapted from Halinen & Törnroos, 1998, p.192.

Analysing network interaction highlights that actors’ activities may be “affected not only by the actor’s isolated relations with other individual actors (e.g., a series of buyer-seller relations) but also by the structure of the overall network of relations within which each actor resides” (Choi & Kim, 2008, p.8). Empirical research at this level of network analysis remains limited, possibly due to the methodological complexity involved in data collection and the delimitation of network ‘boundaries’ (Hertz & Mattsson, 2004).

The discussion of three levels of network interactions provides the conceptual groundwork for addressing the empirical challenge that in networks, risks “are linked to each other in complex patterns with one risk leading to another, of influencing the outcome of other risks” (Manuj & Mentzer, 2008, p.198). Capturing the connectivity and embeddedness of actors, resources and activities at different levels of interaction is critical to inform research on how companies deal with risk. However, while it is recognized in existent network research that: “significant events may take place in distant parts of the network, or in ‘another’ network, not fully associated with the main or obvious one. [And] also, threats to the future of a business often come from unexpected locations” (Ford & Redwood, 2005, p.649), there is limited systematic research into *how* companies deal with risk in business networks. In fact, dealing with risk remains a ‘black box’ in reviewed network research.

To address this limitation, this thesis argues for the synthesis of the network and institutional approaches: While the network approach offers the conceptual groundwork for capturing the complex reality of business interactions in which risk occurs, institutional research adds *explanatory power* by illuminating *how* companies use institutional devices such as standards and contracts for dealing with risk. Therefore, the following section introduces relevant concepts from institutional research that inform the development of the subsequent theoretical framework discussed in Section 2.6.

2.5.2 Institution-based approach to risk

The institution-based approach is an umbrella term, subsuming research that investigates how and why companies use institutional devices such as contracts (see, for example, Bazerman & Gillespie, 1999; Carson, Madhok & Wu, 2006; Dekker, Sakaguchi & Kawai, 2013), standards and certification systems (Gopal & Gao, 2009), insurances (Miller, 1992), routines (Becker & Knudsen, 2005), financial reports and supplier audits (Zsidisin, Melnyk & Ragatz, 2005) and norms or customs (Macaulay, 1963, 1986; Macneil, 1978, 1980). Humans have relied on institutions as “organizing principles in a complex reality” (Koppenjan & Klijn, 2004, p.75) since ancient times as a means “to create order and reduce uncertainty in exchange” (North, 1991, p.97). However, despite this fundamental role of institutions in business interactions, a review of business and management research on institutional devices reveals that it proceeds predominantly on a *separate trajectory* from institutional research. This section addresses the disparity by offering a systematic review of relevant institutional concepts that significantly help in informing our understanding of how companies use institutional devices for dealing with risk.

It is worth clarifying, at this stage, the use of the terms ‘institutional theory’, ‘institutional economics’, ‘neo-institutional theory’ and ‘institution-based approach’ to delimit the thesis’ theoretical scope, positioning and contribution. ‘Institutional theory’ is not a uniform theoretical framework, but an umbrella term subsuming at least two broad schools of thought: old and neo-institutionalism (Powell & DiMaggio, 1991). ‘Old institutionalism’ predominantly rests on ideas from ‘institutional economics’ and ‘neo- institutionalism’ draws on *sociology*, focusing on the symbolic, cultural and interpretative elements of institutions. While a distinction between ‘institutional economics’ and ‘neo-institutionalism’ is common, it tends to obscure the strong parallels between both streams: for example, a major focus often used to demarcate the difference between the two streams of institutional research is the concern with efficiency in institutional economics (for example, Williams, 2003) and concern with legitimacy in neo-institutionalism (for example, Suchman, 1995). However, detailed reading of institutional theory research from both streams reveals significant overlaps, with institutional economists such as North (1990) and Hayek (1945) questioning purely efficiency-driven institutional arguments and neo-institutionalists arguing for efficiency

considerations to precede legitimacy concerns in business settings (see, for example, Meyer & Rowan, 1977; Deephouse, 1996).

In line with critics of this periodization of institutional research (Abbott, 1992; Sleznic, 1998; Peng, 2002), this research deliberately adopts an *integrative approach* (Peng & Heath, 1996; Oliver, 1997; Peng, 2002), referred to as '*institution-based*'. Institution-based research considers relevant insights from *both* streams of 'institutional theory' and is aligned with more recent treatments of institutional research in business and management studies (Peng & Khoury, 2008; Peng, Sun, Pinkham & Chen 2009).

Considering the potential contribution of institutional research in understanding fundamental concepts such as institutions, rules, institutional creation, change and diffusion across space and time, it is surprising that business and management literature investigating institutional devices such as contracts or standards does *not* explicitly and more systematically draw on this body of knowledge. This aversion may be explained by the "endless disputes over the definition of key terms such as institution and ... led some writers to give up matters of definition and to propose getting down somehow to practical matters instead" (Hodgson, 2006, p.1). Consequently, there is limited effort expended in defining *key* terms such as 'institutions', 'rules' and 'institutionalisation' in business and management literature. Yet, it is critical to review existent literature on these key concepts, because it provides vital insights into the very *properties of institutional devices* such as standards and contracts, and significantly enhances our understanding of how companies use institutional devices for dealing with risk. Therefore, the following paragraphs review relevant literature discussing the concepts of institutions, rules and institutionalisation. This conceptual discussion informs the empirically substantiated institution-based explanation of how companies deal with risk, developed in Chapters Nine and Ten.

Despite the centrality of institutions to social science, where it holds a similar status to the concept of competition in economics, the term remains vague (Jepperson, 1991). Dominant (mis-)conceptions include using the term with reference to a particularly important or large organisation, or the identification of 'organisational context'. Such conceptions limit the understanding of institutions to 'faceless', 'external actors' such as the 'legal system', who may influence, impose, constrain or regulate the behaviour of other actors who have limited room for manoeuvre in the face of 'institutional commands'.

In contrast to these (mis-)conceptions, this thesis adopts a more nuanced definition developed by Jepperson (1991, p.145), who refers to institutions as a:

"social *order* or pattern that has attained a certain state or property; *institutionalization* denotes the process of such attainment. By order or pattern, I refer, as is conventional, to standardized *interaction* sequences. An institution is then a social pattern that reveals a particular reproduction process. When departures from the pattern are counteracted in a regulated

fashion, by repetitively activated, *socially constructed controls* - that is, by some set of *rewards and sanctions* – we refer to a pattern as institutionalized. Put another way: institutions are those social patterns that, when chronically reproduced, owe their survival to relatively *self-activating social processes*" (emphases added).

This definition of 'institutions' and 'institutionalization' is invaluable in drawing attention to institutions: (a) as a *sequence of interaction* constituting a *social order* or pattern; (b) institutionalization as a *process*; (c) the vital role of inbuilt *controls, rewards and sanctions*; (d) for ensuring a *self-activating* process that perpetuates the use of institutions. Consequently, institutions are not merely constraining forces, limiting (unwanted) variability of behaviours. Instead, institutions are "powerful sources of both stability and change" (Jepperson, 1991, p.161), which "simultaneously empower and control" (ibid. p.146). 'Institutionalization', as a 'self-activating' process is different from 'action'. Whereas 'action' involves active, repeated and resource-intensive "(re-)mobilization and (re-)intervention in historical processes to secure persistence" (ibid., p.148), institutionalization is efficient and fast because it relies on self-organizing principles that facilitate co-ordination across time and space. What remains unclear at this point, however, is what exactly distinguishes 'institutions' from 'rules'?

The distinction between 'institutions' and 'rules' is crucial, because it sheds light on rules as the building blocks of institutions that give rise to the properties of institutions identified by Jepperson (1991). Yet, the difference between the two concepts is not straightforward, particularly as some authors collapse rules and institutions into one another, offering few words of clarification. For example, Hodgson (2006, p.2) suggests that institutions are "systems or established and prevalent social rules that structure social interactions", and, North claims, "institutions are the rules of the game in society" (1990, p.3, emphasis added). Nevertheless, rules and institutions are *distinct*, yet inter-related entities. Specifically, this thesis uses the term 'rules' to denote "*socially transmitted* and customary normative injunction[s] or immanently normative disposition[s], that *in circumstances X do Y*" (Hodgson, 2006, p.3, emphasis added). Ostrom suggests a similar, more concise definition of rules by stating that a "rule can be thought of as the *set of instructions* for creating an action situation in a particular environment...Rules combine to build the *structure of an action situation*" (2005, p.17, emphases added). These definitions deserve further clarification:

First, the '*social transmission*' of rules draws attention to the fact that rules are not 'given', but rely on *active codification, sharing and replication* among groups of actors. The "criterion of codifiability is important because it means that breaches of the rule can be identified explicitly. It also helps to define the community that shares and understands the rules involved" (Hodgson, 2006, p. 3). Codifiability of rules also distinguishes rules from the often

interchangeably used concept of 'norms'⁶: Rules and norms are distinguished by their means of transmission and enforcement (Toumela, 1995; Hodgson, 2006). While norm-guided behaviour is influenced by shared beliefs and (non)-conformity results in approval or disapproval, rule-guided behaviour relies on "*actual agreement between individuals*" (Hodgson, 2006, p.5, emphasis added) and non-conformity implies *sanctions*. In fact, codification, in-built mechanisms of enforcement and sanctioning are identified as key elements constituting 'rules'.

Second, the concept of rules defining 'that in circumstances X do Y' highlights how rules are an instrument to "achieve order and predictability among humans by creating classes of persons...who are then required, permitted, or forbidden to take classes of actions in relation to required, permitted, or forbidden outcomes, or face the likelihood of being monitored and sanctioned in a predictable fashion" (Ostrom, 2005, p.18). Highlighting the *aims* actors have in using rules, such as permitting, forbidding, monitoring or sanctioning, demonstrates how rules are capable of limiting variability in interactions by operating "as protection against the opportunistic behaviour of other actors" (Koppenjan & Klijn, 2004, p.76). However, such an understanding shall not mislead us into equating rules with 'commands'. In contrast to commands, rules derive their power not merely from constraining (inter-) actions, but from *facilitating collective adaptation to change*: That is because, "the more complex the order aimed at, the greater will be that part of the separate action which will have to be determined by circumstances not known to those who direct the whole, and the more dependent control will be on rules than on specific commands" (Hayek, 1973, p.50).

Such complexity precludes designing rules that address *all* potential future situations X and responsive behaviours Y (Vermeule, 2015). Rather, rules emerge as "problem-solving individuals interact, trying to figure out how to do a better job in the future than they have done in the past" (Ostrom, 2005, p.19). Hence, the guiding principle for considering changes to rules is not precaution but *precedent*: The "idea of precedent means that if a particular problem of practice X is settled in case C, then the rationale in case C would be applied by later

⁶ The distinction between 'norms' and 'rules' is more complicated than the scope of this discussion permits examining. For one thing, regionally varying normative understandings may significantly influence the kind of rules created and the way these rules are enforced and sanctioned. Secondly, normative underpinnings may significantly influence the compliance with rules, and, hence, the effectiveness of enforcement mechanisms. However, the purpose of the simplified distinction above highlights why properties of rules, such as the codifiability and subsequent *sharing* of rules, enforceability by third parties and looming sanctions are important in business networks, where actors may not know each other or have no opportunity to interact with each other in a way that would deem reliance on norms alone insufficient. In this way, this line of enquiry is close to Douglas North's proposition that

"neither self-enforcement by parties nor trust can be completely successful. It is not that ideology or norms do not matter; they do and immense resources are devoted to [them]...Equally, however, the returns on opportunism, cheating and shirking rise in complex societies. A coercive third party is essential...Indeed, effective third-party enforcement is best realized by creating a set of rules that then make a variety of informal constraints effective" (North, 1990, p.35).

actors to practice X. In other words, case C sets a precedent in relation to practice X" (Mouzas & Ford, 2009, p.496). Rule creation and adaptation based on precedent illustrates how on the one hand, "rules structure the behaviour of actors, but in interaction, are also formed by these same actors" (Koppenjan & Klijn, 2004, p.76). Hayek addresses this observation by stating that:

"the knowledge which has given [the rules] their shape is not knowledge of particular future effects but knowledge of the recurrence of certain problems ...and most of this knowledge exists not as an awareness of an enumerable list of situations for which one has to be prepared, or of the importance of the kind of the problems to be solved, or of the probability that they will arise, but as a propensity to act in certain types of situations in a certain manner" (1973, p.21).

This perspective is significant in that it recognizes that rules are not "self-formulating, self-determining, or self-enforcing" (Ostrom, 2005, p.20) and that rules are powerful exactly because actors have limited capacity to accurately identify and act upon probability-based future scenarios. Beckert (1996, p.810) articulates this even more clearly in suggesting that rules:

"do not increase [actors'] calculative capabilities for determining probabilities in order to master uncertainty. Rather, they rely on social 'devices' and restrict their flexibility and create a *rigidity* in the responses to changes in an uncertain environment. The term 'social devices' encompasses all forms of rules, social norms, conventions, institutional, social structures, and power-relations that limit the choice set of actors and make actions at the same time predictable" (Beckert, 1996, p.819, emphases in original).

To influence *action*, actors must design institutional devices that induce compliance (Tolbert & Zucker, 1996). Ostrom (2005, p. 259) provides the most comprehensive synthesis of principles generating compliance in long-enduring institutions. Among other principles, she mentions that institutions must:

- (a) Clearly define *boundaries* delimiting *who are the actors* who are included by the *systems of rules* and who have *rights* to access and use *resources*;
- (b) Provide for 'collective-choice arrangements', by which Ostrom means that actors involved in accessing and using resources must "be included in the group who can *modify the rules*";
- (c) Include *monitoring processes* to ascertain compliance. Monitoring may be outsourced to third parties who must be at least partially accountable to the actors who are involved in accessing and using resources;
- (d) Involve *sanctioning*, so that "users who violate rules-in-use are likely to receive graduated sanctions (depending on the seriousness and context of the offence) from other users, from officials accountable to those users, or from both";
- (e) Include *conflict-resolution mechanisms* characterized by easy access for all parties concerned and at relatively low cost;

- (f) Be created under at least a minimum of *freedom to self-organize*, where institutions created by actors are not challenged by governmental authorities and where these actors retain long-term rights over their institutional set-up;
- (g) Comprise the provision of rules, monitoring, enforcement, conflict resolution, and governance activities organized on *multiple layers*.

While Ostrom offers the most comprehensive account, other authors have focused on the principles of '*enforcement*' and '*sanctioning*' (Ehrlich, 1913/2002; North, 1990; Hodgson, 2006). North traces the development of enforcement principles back to medieval merchants, stating that:

"although ... courts handled commercial disputes, it is the development and evolution of mechanisms for enforcing agreements by merchants themselves that is of particular interest. Enforceability appears to have had its beginning in the development of internal codes of conduct in fraternal orders of guild merchants; those who did not live up to them were threatened with ostracism" (1990, p.127).

While enforcement is easier in direct interactions with few actors, it becomes more difficult in a context with multiple, geographically dispersed actors. Hodgson (2006, p.15) suggests that industry associations may therefore take upon themselves "state-like qualities to enforce agreements and protect property." Lacking investment in institutional enforcement may significantly weaken the power of institutional devices in reducing uncertainty, because of the increased potential for "considerable difference between predicted and actual behaviour" (Ostrom, 2009, p.21). The two dominant ways of enforcement are of the "self-enforcing variety, through codes of behaviour, or by third party policing and monitoring" (North, 1986, p.231).

Apart from enforcement, existent research focuses on the *looming threat to exercise non-legal sanctions* to achieve compliance (Ehrlich, 1913/2002; Charny, 1990). Charny (1990) provides a typology of non-legal sanctions, which may result in reputational damages, loss of relationship-specific assets and of future business opportunities. He maintains that agreements between business actors which "formally provide for legal sanctions depend upon non-legal sanctions for their effectiveness whenever the legal sanctions are ineffective in inducing the promisor to perform" (Charny, 1990, p. 394). While empirical research on exact sanctions is scarce, most authors agree that sometimes, the

"mere fact that business partners know, often only very vaguely, that there might be some form of sanction... is the key to understanding the sanctioning power of formal and informal institutions. They provide orientation and stability rather than explicit threats and deterrence" (Bachman & Inkpen, 2011, p.291).

Enforcement and sanctions are not peaceful institutional set-ups but contested arenas in which power (asymmetry) and resources matter. Enforcement and sanctioning are regarded as *interventionist practices*, where interference refers to an "act of coercion, undertaken for

the purpose of achieving a particular result. Every act of interference thus creates a privilege ... that it will secure benefits to some at the expense of others" (Hayek, 1973, p.129). This insight builds on the early work of Commons, who maintains that institutions emerge "from resolutions to strategic problems in social relationships between wilful and conflicting individuals" (in Van de Ven, 1993, p.139).

The assumption of agency in institutional creation strongly influences the stream of research on institutional entrepreneurship (Meyer & Rowan, 1977; DiMaggio, 1988; Lawrence, Hardy & Phillips, 2002; Dacin, Goodstein & Scott, 2002; Hardy & Maguire, 2008; Veal & Mouzas, 2011), which is important to enhance our understanding of *who* designs institutional devices, *how* and *why*. Institutional entrepreneurship refers to the "activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones" (Maguire, Hardy & Lawrence, 2004, p.657). This description builds on the early research on this concept by DiMaggio (1988, p.14), who suggests that "new institutions arise when organized actors with sufficient resources (institutional entrepreneurs) see in them an opportunity to realize interests that they value highly".

Empirical research on institutional entrepreneurship covers national, international and global levels of analysis and draws attention to the importance of understanding the contextual conditions, such as changing legal, political, social and market developments. Specifically, existing research examines triggers for institutional entrepreneurship activities, which include high uncertainty, crises (Fligstein & Mara-Drita, 1996), disruptive events (Hoffman, 1999), shocks (Fligstein, 1991), jolts (Meyer, 1982), regulatory changes, technological disruptions or publication of media reports (Hardy & Maguire, 2008). An example of companies creating institutions as a way of dealing with uncertainty arising from 'legal ambiguity' is given by Mezias (1990), who examines how major U.S. companies have influenced the development of financial reporting requirements.

While it is agreed that institutional change tends to be initiated by dominant actors in a network, who control sufficient resources to intervene and impose new institutions, consent and co-operation from other actors remains indispensable. Institutional entrepreneurs may exploit their access to critical resources "as a lever against other actors to negotiate support for their... project in question" (Hardy & Maguire, 2008, p.207). Granting this support may depend on the "positive inducements offered to prospective allies in exchange for their support. Others are premised on negative inducements in the form of threats" (Hardy & Maguire, 2008, p.207), which institutional entrepreneurs may enforce themselves or through third parties. Multiple studies report that such 'new' institutions are not isolated, but embedded and dependent on existing institutions such as the legal system, industry associations, or auditing and certification agencies (Holm, 1995; Hardy & Maguire, 2008). For

example, Garud et al. (2002) examine how companies behind the Sun Microsystems and Java standards have capitalized on the legal system for establishing and enforcing new institutions. Institutional entrepreneurship is inextricably linked with the existing institutional context and the exercise of power, which may manifest in the use of “offering financial incentives, imposing penalties, or invoking formal authority” (Hardy & Maguire, 2008, p.209) in the name of institutionalizing new practices to ‘grow the bandwagon’ and the practice’s legitimacy (Garud et al., 2002).

Yet, how do institutions bridge time and space to influence *interaction* beyond organizational boundaries and direct interactions? Academic research addressing this question offers two directions, which appear to proceed on parallel trajectories. One direction, which appears to attract most research, is advanced by neo-institutionalist scholars who examine *coercive, normative and mimetic isomorphism* (DiMaggio & Powell, 1983/1991) to explain ‘institutionalisation’. Later, Tolbert and Zucker (1996/1999) suggested that *habitualization, objectification and sedimentation* are mechanisms of ‘institutionalisation’. The second direction, which appears to have been undeservedly neglected, is the examination of institutional “carriers...such as symbols, relations, artefacts” (Dacin, Goodstein & Scott, 2002, p.49). This direction is of particular interest to the present research because it focuses on the analysis of business artefacts as material ‘carriers’ of rules (Ehrlich 1931/2992; Suchman, 2003; D’Adderio, 2011), and illuminates how such artefacts function as ‘O-rings’ in business interactions.

Business artefacts, such as contracts, or General Terms and Conditions, standards or insurance policies, are one form of empirical *manifestations of institutions* in business interactions. Artefacts are “discrete material object[s], consciously produced or transformed by human activity, under the influence of the physical and/or cultural environment” (Suchman, 2003, p.98). Artefacts, “unlike speech or gestures...exist independently of their creators; unlike ideas, they are perceivable by the senses” (ibid.) and can therefore transcend individual actors and dyadic interactions. Such artefacts are tangible manifestations of *adaptable* institutional devices that provide ‘islands of certainty’ in complex business interactions across time and space.

Specifically, business artefacts are relevant in establishing a common referent and for scaffolding activities carried out by inter-dependent, but distinct actors (Okhuysen & Bechky, 2009). In network interactions, companies draw on the symbolic and technical properties of artefacts: signing a contract, for instance, is seen as “symbolic reassurance that the parties are entering into a predictable, controllable, and mutual relationship within a social order” (Suchman, 2003, p.111). Like scripts for a play, business artefacts may “provide a storyline to keep the performance on course, even in the face of substantial improvisation” (Suchman, 2003, p.114) by providing the actors “with a tractable reference document that can link the

individual parts into a coherent... whole" (ibid.). Simultaneously, artefacts possess technical functions such as defining the actors involved, intention of interaction, the time horizon, litigiousness; they may also: "signify commitment, seriousness and finality" (Suchman, 2003, p.113). Codifying rules in business artefacts can facilitate dealing with risk by specifying outcomes that actors want to avoid at all costs:

"By formulating 'don'ts', parties are able to protect themselves against the risk of investing their resources in an interaction process that ultimately achieves an undesirable ... [outcome]. An important 'don't' for companies that participate in interaction is the leaking of sensitive information or innovative ideas to competitors" (Koppenjan & Klijn, 2004, p.194-195).

This illustration highlights that business artefacts are not neutral, but carry the *inscribed interests of those actors who created them* and in whose interest it is that *these* artefacts indeed 'guide the play' (D'Adderio, 2011; Öberg, Henneberg & Mouzas, 2012). The concept of 'inscription' sheds light on how artefacts function as "*mediators* that perform and influence the practices in which they are involved" (D'Adderio, 2011, p.212. emphasis in original). The value of business artefacts as 'carriers of rules' in business interactions is their capacity to transcend organizational boundaries, time and space.

While the above review has highlighted the relevance and conceptual potential of the network and institution-based approaches in understanding how companies deal with risk in direct and indirect *interactions*, these approaches remain surprisingly underdeveloped in business marketing and the broader fields of business and management studies. Therefore, the following section presents a deliberate effort to develop a systematic, theoretical synthesis that provides the groundwork for the institution-based explanation of how companies deal with risk in business networks, which is presented in Chapter Nine.

2.6 Towards a theoretical framework

The following three sections present a synthesis of business network and institution-based research by examining the current state of literature on companies' use of institutional devices for dealing with risk at three levels of network interaction: the dyadic, focal and network levels.

Despite the promising insights to be gained from the synthesis of network and institution-based research, there is limited development in this field to date (Brito, 2001; Garud, Jain & Kumaraswamy, 2002; Järvenisu et. al., 2008; Yang & Su, 2014). After decades of proceeding on "largely separate trajectories" (Owen-Smith & Powell, 2008, p.594) there are few attempts at exploring "points of intellectual cross-fertilization" (ibid.). These attempts have in common

that scholars from both fields agree that “networks and institutions are co-constitutive. ...[N]etworks shape institutions but institutions sculpt networks” (Owen-Smith & Powell, 2008, p.603), and therefore any attempt at understanding network phenomena must consider institutions and vice versa. The relatively nascent attempts at combining network and institution-based research recognise the “generative potential of networks as transmission channels” (Owen-Smith & Powell, 2008, p.595), and call for research that focuses on “the conditions under which particular practices...diffuse or fail by making rules and practices themselves the unit of analysis” (ibid., p.617). This call is addressed in this research by investigating the content and use of institutional devices – contracts, GTC and industry standards – for dealing with risk in networks.

Yet, while there is evident interest in combining network and institution-based research, the synthesis needs more systematic development: To date, institution-based research appears to lack a useful conceptualisation of ‘networks’, while network research appears to under-utilize the explanatory potential of institutional research for understanding network phenomena such as dealing with risk. In fact, risk appears to have escaped research attention in both fields. In addressing these observations, this research capitalizes on the IMP Group’s conceptualisation of networks and substantiates the explanation of how companies use institutional devices for dealing with risk by drawing on institution-based research.

A critical prerequisite for the synthesis of network and institution-based research – which is an exercise in “building theory by combining lenses” (Okhuyzen & Bonardi, 2011, p.6) – is to ensure that both approaches share underlying assumptions and analytical foci. Since existent research has not addressed this issue, the following section outlines three fundamental assumptions that underpin network and institutional research and therefore strengthen the theoretical rigour of this synthesis.

First, network and institutional research does not consider individual actors as their main or exclusive units-of-analysis, but allow operating at higher levels of aggregation (Holmlund & Törnroos, 1997; Wooten & Hoffman, 2008; Yang & Su, 2014). Actors in both fields are conceptualised as purposeful, boundedly rational, inter-dependent and embedded (Owen-Smith & Powell, 2008). Recalling the conceptualization of ‘business networks’ described earlier, it is worth illuminating the parallels with the institutional concept of ‘organizational fields’. The institutional concept of ‘organisational fields’, also referred to as ‘inter-organizational fields’ or ‘institutional fields’ (Wooten & Hoffman, 2008), shows significant parallels with the network concept advanced by the IMP Group. ‘Organizational fields’ refer to *“network ties between constituents that directly and indirectly interact with each other...organizational fields focus on the degree to which a field of actors is characterized by a single, predominant, or by multiple, potentially competing institutional orders”* (Meyer, 2008a, p.525, emphasis added). Organizational fields encompass actors such as business

organisations, interest groups, industry associations or governmental bodies. Similar to observations in business network literature, delimiting organisational fields can be challenging, because fields are:

“not necessarily bound by geography or goals, but instead make up a recognized area of institutional life. These could include organizations that produce similar services or products, suppliers, resource and product consumers, regulatory agencies and others” (Wooten & Hoffman, 2008, p.131).

Second, network and institutional research share the emphasis on *field/network dynamics and change processes*, focusing significantly on “the ways in which organizations enact their environment and are simultaneously enacted upon by the same environment” (Wooten & Hoffman, 2008, p.136). As actors need to reconcile multiple, potentially contradictory institutional arrangements, organizational fields, similar to networks, are in constant flux. This is because fields and networks are characterized by constant “entry or exit of particular organizations...and through an alteration of the interaction patterns and power balances among them” (Wooten & Hoffman, 2008, p.135). This view emphasizes that institutions are seen as “products of human design [and] the outcomes of purposive action by instrumentally oriented [actors]” (DiMaggio & Powell, 1991, p.8). To capture processes and dynamics in networks, both approaches emphasize the need for research at multiple levels of analysis, including network, focal and dyadic interactions (Yang & Su, 2014). Yet, existent research in both fields recognizes that to date:

“we know relatively little about the specific dynamics of change *within and between* these different institutional layers. More analytical concepts that integrate structural features of the different layers with relational and processes approaches need to be developed in order to discern the *interactions between the different layers*” (Djelic & Quack, 2008, p. 317, emphasis added).

Third, network and institutional research draw on critical realism to inform empirical work and theory development (Leca & Naccache, 2006; Easton, 2010). Critical realist logic contributes to theory development in network and institutional research by providing the conceptual tools to illuminate structure-agency duality (Archer, 2010); and by facilitating causal explanation of patterns of interactions (Meyer, 2008b).

Building on the conceptual groundwork informing the synthesis of network and institution-based research, the following sections examine the current state of literature on companies’ use of institutional devices for dealing with risk at three levels of network interaction: dyadic, focal and network interaction.

2.6.1 Dealing with risk in dyadic interactions

Research into how companies use institutional devices for dealing with risk in direct dyadic interactions has attracted most attention, and consistently advances within and outside

business network research (Lusch & Brown, 1996; Eggleston, Posner & Zeckhauser, 2000; Seshadri & Mishra, 2004; Mouzas & Ford, 2006; Weber & Mayer, 2011). Common classifications of research investigating the use of contracts in business-to-business relationships distinguish between:(a) relational contracting, focusing on the role of trust, commitment and norms (Macaulay, 1963; Macneil 1985; Eisenberg, 2000; Mouzas & Blois, 2013); and (b) formal contracting (Mouzas & Furmston, 2008; Mouzas & Ford, 2012).

In both streams of research, contracts provide the ‘architecture’ of business relationships by orchestrating actors, resources and activities in repeated, direct interaction over time (Mouzas & Furmston, 2008), and facilitate the continuity of business interactions in the face of future contingencies.

The purpose of contracts is to find:

“relatively simple specifications that come close to achieving what a complete, contingent contract could do under situations of environmental risk (i.e., the whims of Mother Nature) and behavioural risk (i.e., the potentially opportunistic behaviour of trading partners” (Lyons, 1996, p.29).

Despite continuous research investigating the use of contracts in business relationships, and particularly the use of umbrella agreements (also referred to as ‘framework contracts’) in retailer-manufacturer relationships (Mouzas, 2006; Mouzas & Blois, 2008; Mouzas & Furmston, 2008), the majority of contract research remains conceptual, offering limited empirical evidence. While this may be explained by challenges in accessing confidential contracts-in-use, Argyres, Bercovitz and Meyer (2007, p.3) highlight other contributing factors, such as the significant research emphasis on trust and norms following Macaulay’s work on non-contractual relations in 1963, and respective scepticism towards the importance of formal contracts in business relationships.

However, research into major litigation cases, such as between British retailer Marks & Spencer and the supplier Baird, highlights that reliance on non-contractual relations can cause serious enforceability problems for any actor (Blois, 2003). Consequently, depriving a business relationship of formal contracts appears unwise, because the actors miss the benefit of legal enforcement in court if all negotiation efforts fail. While it appears that it is not necessarily the *actual* legal enforcement, but rather the *looming possibility* of legal enforcement that motivates contractual performance (Ring, 2008), the formality of contracting remains central. Recourse to formal contracts draws attention to the fundamental principle that what is exchanged between business actors “are not [only] physical entities but the *rights* to perform certain actions – and those rights are established by the legal system” (Ring, 2008, p.510).

Considering the issues associated with relational approaches to contracting, and the limitations of relying on norms and customs in globally dispersed interactions across multiple

actors, this research is concerned with understanding how companies use formal contracts for dealing with risk in direct relationships. In taking this approach, the researcher follows Suchman's (2003, p.96) call to study 'contracts-as-artefacts' rather than 'contracts-as-doctrine' or 'contracts-as-relation'. What distinguishes the contract-as-artefact from alternative approaches is that it is primarily concerned with understanding the substance of contract in its own, yet contextual, use. In his seminal piece, *Contracts as Social Artefact* (2003, pp.96-97), Suchman suggests that:

"despite the ubiquity of contract documents in modern life, this question has received surprisingly short shrift from the existing literature. Doctrinalists tend to trivialize contract documents as mere occasions for applying Contract Law, while relationalists tend to marginalize contract documents as mere legalistic formalities. From an artefactualist perspective, however, such dismissals ignore a fundamental empirical puzzle: Evidence suggests that in most transactions, legal doctrine is obscure, and the threat of legal enforcement is remote; yet actors often invest substantial resources into producing written contracts...This paperwork, moreover, generally exhibits a systematic internal structure and generally changes in systematic ways over time. For better or worse, contract documents behave not like extraneous phenomena, but rather like systematically produced social artefacts, and we might learn something of value if we occasionally were to study them in precisely those terms."

Moreover, while Suchman highlights the significance of researching the *contract-in-use*, because "the use of handwritten amendments to printed contracts ... indicates direct attention to a particular clause" (2003, p.109) his suggestions were followed with limited empirically founded research.

Existential research highlights the benefits of contracting for addressing *idiosyncratic* risks in *direct* relationships. Contracts create:

"tailored obligations, responsibilities, benefits and arbitration arrangements *ex-ante* to [the exchanges]... In the presence of market ambiguity, a customized contract functions as an ex-ante safeguard against a partner's opportunism because it legitimizes monitoring and adds more term specificity and contingency adaptability to the contract. For example, a customized contract enables firms to accurately measure and reward productivity...avoid productivity and avoid performance risk by modifying goals, activities and arbitration arrangements in advance" (Yang, Su & Fam, 2012, pp.43-44).

Such measures facilitate safeguarding resources from risk, including the relationship itself, which is considered a primary asset in marketing literature and practice. Contracts derive their power from their ongoing adaptability to the requirements of multiple, idiosyncratic relationships, as the terms are tailored to meet the present demands and concerns of both actors, while projecting courses of joint action into the future. Moreover, contracts – as forms of rule-based devices – help actors assume "certain behaviour by others, without having to confirm it in concrete situations" (Koppenjan & Klijn, 2004, p.80).

In the context of retailer-manufacturer relationships, research on 'umbrella agreements' is of particular relevance to this thesis. Umbrella agreements provide a 'frame' for future transactions and facilitate re-negotiation in "regular, stable and established business relationships" (Mouzas & Furmston, 2008, p.40). Instead of specifying transaction parameters, such as volume or delivery times, umbrella agreements provide a 'constitution-like' set of rules within which future exchanges are concluded (Mouzas & Ford, 2006). Key clauses in umbrella agreements deal with exclusivity, confidentiality, property rights, force majeure, termination conditions and renegotiation (Mouzas, 2006). The benefits of drafting umbrella agreements include reduced "time and effort to select, manage and oversee single transactions [...provision of] certainty regarding the conditions under which exchanges may take place [...and the provision of] a platform for an on-ongoing negotiation" (Mouzas & Furmston, 2008, p.38). Umbrella agreements constitute a device for dealing with *idiosyncratic* issues relevant in *single dyads*, by offering a codification of rules for future interactions.

While existent research confirms the value of contracting in direct, dyadic relationships, there are limitations to contracting if applied across a high number of direct and indirect interactions: Since contracting presumes mutual negotiation, it becomes prohibitive in terms of time and cost to replicate this practice across multiple direct and indirect interactions. For example, recalling the case of Wal-Mart with over 100,000 suppliers, negotiation of individual contracts becomes absolutely impossible. This raises the question: How do companies deal with risk emerging from multiple, potentially indirect relationships? To answer this question, it is useful to review research conducted at the next higher level of network interactions: the focal network.

2.6.2 Dealing with risk in focal interactions

Knowledge of how companies deal with risk at the focal level of network interaction is particularly limited. Analysing focal interactions requires examination of all relevant *direct and indirect* business relationships from the perspective of a single company. This view requires moving our attention *beyond* direct relationships to considering how companies deal with risk in direct *and* indirect relationships.

A promising, yet often neglected stream of research focuses on the use of General Terms and Conditions (GTC). GTC are a form of contract, which "one of the contracting parties has defined in advance with the intention to incorporate them into future transactions" (Mouzas & Furmston, 2008, p.42). Typically, GTC are the result of a continuous "rationalisation and adaptation process to the evolving needs of commercial practice" (ibid.). GTC provide a powerful tool for:

- (a) *Unilaterally* defining the terms and conditions governing multiple interactions;

- (2) *Fast and constant adaption of terms and conditions* in response to the “evolving needs of commercial practice” (Mouzas & Furmston, 2008, p.42); and
- (3) *Enhancing efficiency, predictability and reliability* in multiple interactions across geographic boundaries and legislatures by *standardizing* the GTC.

Although GTC have facilitated repeated business transactions since ancient times, research in the context of business-to-business relationships remains scarce (Blois, 1972; Blois, 2003; Mouzas & Furmston, 2008). Yet, without GTC, business transactions would either require individually negotiated contracts, or, alternatively, result in complete reliance on informal agreements. The limitations of both alternatives highlight GTC’s significance.

GTC’s efficiency has contributed to their ubiquitous use in business transactions since ancient Roman times. Roman jurist Marcus Labeo, for example, reported a storehouse landlord who nailed liability exemption terms at his entrance (Hellwege, 2010). A similar practice is reported from medieval Scotland by Bankton (1751, in Hellwege, 2010, p.3), where a stable owner fixed a “placard ...on the door of a stable, ... declaring the stabler not liable for hazards, [as] the persons interested are presumed to consent to the terms of it”. With the inception of industrialization, to date, GTC has proliferated in almost every industry, including banking, insurance, transportation and retailing.

Consider the recent case of General Mills, who amended their GTC to the effect that consumers “give up their right to sue the company if they download coupons, ‘join’ in online communities like Facebook, enter a company-sponsored sweepstake ... or interact with it in a variety of other ways” (New York Times, 2014). General Mills’ GTC state that the company has “new legal terms which require all disputes related to the purchase or use of any General Mills product or service to be resolved through binding arbitration” (General Mills GTC, April 14, 2014). The U.S. chain ‘Whataburger’ practises a similar move by hanging a placard at its entrances “warning customers that simply by entering the premises, they have agreed to settle disputes through arbitration” (New York Times, 2014). The parsimony of unilaterally created and – at least in principle - globally applicable agreements, and the power of GTC to address legal loopholes or ambiguities, secures GTC a key role in business interactions (Hellwege, 2010; Hörnicke, 2012).

Yet, in contrast to other contract forms, GTC are subject to surprisingly limited regulatory intervention.

In most jurisdictions, including the U.S., the United Kingdom or Germany, GTC became subject to regulation only in the 1960s and '70s, and in Australia as late as 2003. Moreover, these regulations focused predominantly on the use of GTC business-consumer, *not* business-to-business interactions. In German law, for example, it is sufficient for business actors to demonstrate a ‘*silent concurrence of wills*’ (‘stillschweigende Willensübereinstimmung’) (IHK

Stuttgart, 2010) for GTC to become a binding basis for business interactions.⁷ Another implication of the GTC's legal state is that business actors reserve significant freedom in the content, scope and reach of the terms, while warranting the document's full legal enforceability.

While research on umbrella agreements facilitates our understanding of how companies deal with idiosyncratic risks in direct dyadic relationships, research on GTC may shed light on how companies deal with risk at a higher level of network aggregation: focal networks. Blois (1972, 2003, 2006) offers some pioneering work examining the use of GTC in the focal network of the British retailer Marks and Spencer. While his work focuses on the phenomenon of vertical 'quasi-integration', he provides one of the few analyses of the retailer's use of GTC in addressing risk emerging from quality deficiencies, cost fluctuation or competitor 'copy-cattting'.

However, apart from this glimpse into Marks and Spencer's use of GTC, there is limited research supported by empirical evidence on the: (a) contemporary content and use of GTC for dealing with risk; (b) the distribution of GTC across a focal network; and (c) the relation between the content and use of GTC and other contracts.

The notion that "it is obvious that General Terms and Conditions are used to pass on risks and liabilities to other contractual parties" (Mouzas & Furmston, 2008, p.42) deserves further research that would investigate GTC-in-use. This endeavour echoes Ehrlich's (1913/2002) advice, which retains its relevance despite the fact that it is over a century old:

"The living law is the law which dominates life itself ... The source of our knowledge of this law is, first, the modern legal document; secondly, direct observation of life, of commerce, of customs and usages [...] only the concrete usages, the relations of domination, the dispositions, the contracts...yield the rules according to which men regulate their conduct. The living law must be sought in...contracts of purchase...business partnerships [...] In all these contracts, there is, in addition to individual content, which applies only to the particular transaction, a typical, ever recurring content. This typical content is basically the most important thing in the document..." (pp.493-501).

2.6.3 Dealing with risk in business networks

Research examining how companies deal with risk at the network level can be categorised into: (a) more abstract, conceptual research on 'network constitutions' (Mouzas & Ford, 2009); and (b) empirically-founded research on the uses of industry standards and certification schemes. Surprisingly, research in both streams does not consider references to institutional research.

⁷ GTC are treated in both common and civil law systems as a type of 'standard form contract', and hence are enforceable like any other contract.

Research on 'network constitutions' is relatively recent and refers to 'constitutions' metaphorically - to capture "a higher-order of multiple conventions that are customary, expected and often self-enforcing within particular business networks" (Mouzas & Ford, 2009, p.495). Such 'higher-order of conventions' comprises "shared systems of values, norms and rules that transcend any single organization or dyadic relationship" (ibid.).

While research on network constitutions does not specifically state *how* such constitutions emerge, *who* the actors are who are creating such custom systems, and *how* network constitutions are transmitted beyond dyadic interactions, it offers valuable groundwork in understanding the use of institutional devices in network interactions. Network constitutions ensure "behavioural regularities which sustain themselves as they serve the interests of the actors involved.... a constitution supplies actors with the rules of the game or the humanly devised constraints that shape human interaction" (Mouzas & Ford, 2009, p.496). Network constitutions are shown to "emanate to a large extent from a process of codification of distributed knowledge and experiences generated by the whole industrial system and are subject to [change] over time" (Araujo & Mota, 2005, p.11). Changes to network constitutions are subject to actors' continuous engagement with reproducing or reshaping the rules considering precedent cases. Hence, network constitutions are specific to "each network's history... These rules regulate the behaviour of actors in the network in the sense that they prescribe what actions are permitted, which actors can participate in which games" (Koppenjan & Klijn, 2004, p.77). In business networks, constitutions "specify the nature of rights [over resources] that ... actors may possess, acquire or transfer" (Mouzas & Ford, 2009, p.497). To enhance actors' capacity of *enforcing* rights, network constitutions frequently encapsulate "externally imposed but accepted laws or legal regulations" (ibid.).

While most research on network constitutions remains conceptual, it is evident that companies invest in "factual, physical and social artefacts of exchange practices [which] create externalities in the form of 'network assets'" (Mouzas & Ford, 2009, p. 500). However, it remains unknown to what extent "network constitutions are explicit, formalized, legal, non-legal or illegal" (Mouzas & Ford, 2009, p.501) and how constitutions materialise, disseminate and change empirically. Conceptually, existent research suggests that older and stable networks will generate more explicit constitutions, which may even materialise in the form of cartels or trade restraints (Mouzas & Ford, 2009, p.501).

Alongside conceptual research, there are relevant *historical accounts* of network constitutions (Buchelo, 2004; Epstein, 2004; Kadens, 2012) as well as research on *standards and certification* schemes that examine empirical evidence of companies' use of institutional devices in network interactions. One of the most prominent examples in the field of business and legal history is the phenomenon of "Law Merchant". Law Merchant refers to "the commercial rules – contractual, customary, and statutory – that govern transactions among

merchants. It includes the rules governing sale, credit, insurance, transportation, and ...partnership" (Epstein, 2004, p.1) developed by merchants in the medieval age. While the specific content and application of 'Law Merchant' remains subject to ongoing academic debate (Sagy, 2011; Kadens, 2012), there is agreement that 'Law Merchant' originates from the Roman law of sale and was concerned with enhancing the reliability of business exchanges between merchants trading internationally: "Much of it, such as the creation of bills of exchange and similar credit instruments, was created by merchants in response to the difficulties of trading at a distance" (Epstein, 2004, p.1).

A more recent empirical examination of 'network constitutions' originates from Buchelo's (2004) research of United Fruit's involvement in the banana trade between South and North America in the beginning of the 20th century. United Fruit dominated the banana trade by orchestrating an impressive structure of GTC and other contract forms that insulated the company from risks emerging from interactions with multiple plantations owners, natural hazards and long-distance trade. Until the 1960s, United Fruit controlled almost 90% of banana production and trade in Central America, and its practices were replicated by other exporters operating in the United States and Latin America. Examining the documents-in-use allows a detailed understanding of the *institutional devices* that United Fruit developed over time to deal with various risks (Buchelo, 2004). The original historical insight into United Fruit's use of institutional devices for dealing with risk is worth quoting in full:

[a] "Local providers were obliged to sell all their produce to United Fruit, but United Fruit was not obliged to buy crops from them;

[b] The contracts guaranteed United Fruit protection from any unpredicted event...for the first four decades of the twentieth century, these contracts established that the fruit belonged to the company as soon as it was cut from the tree. If, however, the fruit happened to have any defect identified by the company's quality-control officials, ownership of the bananas reverted to the planter.

[c] Moreover, even if the company's officials approved and shipped the fruit but it was later rejected by U.S. health authorities for any reason, the fruit reverted to the Magdalena planter, who received no payment.

[d] The contracts also specified that the local planters could not sell any of their fruit, including produce rejected by United Fruit, to another company.

[e] If a local planter sold his or her property to someone else, the seller was obliged to include a clause in the land-sale contract that committed the buyer to adhere to the terms of the company's purchase contract.

[f] In the event that the Colombian or the U.S. government enacted taxes on the banana trade, the locals had to bear the extra costs.

[g] Although the contracts gave a detailed description of the characteristics of the fruit the company considered acceptable for export, the company's officials reserved the right to reject any fruit, regardless of its quality.

[h] Finally, the company reserved the right to cancel any purchase contract with any local planter without indemnification in the event of political conflicts or for any other reason the company decided upon" (Buchelo, 2004, p.189-190).

To ensure compliance with United Fruit's terms, the company relied on three enforcement mechanisms, including the (1) *staggered release of contracts* to farmers so that at no point in time were there several planters that were 'free' of contract to start their own export business or revolt against the terms; (2) *third-party enforcement* through the United States' customs office and British courts, who confiscated shipments if planters tried by-passing selling their harvest to United Fruit; and (3) use of rewards and sanctions in the form of United Fruit loans.

While historical research may appear dated, it provides two key insights: First, this research demonstrates the value of examining *artefacts-in-use*, such as standards, insurance agreements or trade contracts, to understand the uses and content of institutional devices that companies employ for dealing with risk in network interactions. Second, this research highlights the importance of studying *formalised* rules instead of norms and customs. Kadens (2012) powerfully demonstrates that 'Law Merchant' maintained its relevance due to the formalised codification of rules in business artefacts rather than reliance on 'customs' and 'norms', because of the "pliability of custom, the difficulty of proving it with any assurance, and the complexity of transmitting it from place to place... [which results in] custom [being] a slippery type of law to borrow or share" (p. 1194).

Modern use of industry standards and artefacts shows significant parallels with historical accounts, although empirical research in this area remains limited, with a few notable exceptions (Garud et al., 2002; Araujo & Moto, 2005). What is known is that companies can derive significant advantages from developing and enforcing industry standards, which is rooted in the ways standards are set up and distributed:

First, standards are not limited to specifying technical issues, but can be designed to address *any* issue, including risk. Second, standard-setting is not exclusive to certain standard-setting bodies. Instead, any private or public actor can set and address standards to anyone, including companies, but also states or NGOs (Brütsch & Lehmkuhl, 2007). Third, decision making within standard-setting organizations is typically organized "as a rather exclusive club" (Arts & Kerwer, 2007, p.153), which leaves actors with significant freedom to negotiate their own preferences. Fourth, capitalizing on the freedom of contracting, actors use the:

"authorization for designing private transactions as an important avenue for 'including' extra-legal standards, because parties are authorized by the principle to refer to 'outside' norms as a part of the 'legitimate', binding private arrangement. [...In this case] standards serve three 'facilitating' functions: They are 'definers', 'monitors' and 'ex-post references' of a given transaction. ...References to standards may control the transaction throughout its duration

from pre-contractual to the post-contractual stage" (Schanze, 2007, pp.171-175).

This allows companies to establish 'institutional shortcuts' in regulating interactions with multiple actors by taking references to standards 'off the rack' and "plugg[ing them] into the draft with the assurance that they 'function' whenever the contingency arises" (Schanze, 2007, 179). Depending on the power relationship between actors *designing* and actors *adopting* the standard, standards may 'cascade' across a network. Cascading is an intervention practice that refers to actors developing

"artefacts that indicate their requirements of suppliers, in terms of protocols, preferences and policies, and provide them to suppliers with instructions ... to comply. Furthermore...the [actors are] expected to pass on the customer's requirements to its suppliers and so on" (Lamming, 1996, p.74).

In addition to business actors' contractual obligations to comply with standards, standard-setting actors typically rely on third-party certification systems in the form of (unannounced) inspections and audits (Meidinger, 2007).

Finally, standards emerge as efficient mechanisms to address 'legal loopholes' that challenge actors who are constantly engaging in business interactions across multiple national, legal and cultural boundaries. Van der Meulen summarizes this observation, stating that at times when:

"the authority of national governments largely ends at their borders...[t]he only set of rules that trading partners at opposite ends of the world have in common are the rules they created for themselves by contract, including the private systems they include in their relation" (2011, p. 49).

Existing research on the exact *content* and companies' *use* and enforcement of standards for dealing with risk in network interactions remains hitherto limited.

2.7 Conclusion

The literature review highlights that risk in the context of business marketing research has received limited attention and that our knowledge of the conceptualisation of risk and how companies deal with risk requires theoretical development and empirical foundation. In terms of theoretical development, this chapter has shed light on the origins and implications of the probability- and uncertainty-based conceptualisation of risk and how these conceptualisations shape (d) our views of how companies are theorised to deal with risk. Upon a systematic review of the economic, behavioural and operational research of how companies deal with risk, it becomes evident that existent research in this field places disproportionate emphasis upon the unit-of-analysis of single actors and assumes that these actors can unilaterally implement relevant 'risk management systems'.

In addressing the limitations of existent research approaches, the chapter has introduced a new perspective to enhance our understanding of how companies deal with risk in business networks by developing a systematic synthesis of network and institution-based research:

While the network approach captures the complexity of interdependent and embedded business interactions, the institution-based approach contributes an important explanatory dimension to understand companies' use of institutional devices - such as contracts and standards - for dealing with risk in direct and indirect business interactions. The value of this synthesis rests in capturing more accurately how companies deal with risk in real life by transcending the conceptual lens of *single actors' actions*.

The theoretical insights raised in the literature review are significant in co-determining the paradigmatic and methodological decisions underpinning the empirical research discussed in the following chapter.

CHAPTER 3

METHODOLOGY

CHAPTER 3. METHODOLOGY

3.1 Introduction

This chapter presents the epistemological, ontological and methodological choices of this research. Building on the critical realist epistemology and network ontology, this research employs case study research to collect empirical data through in-depth semi-structured interviews, business artefacts and participant observation. The chapter describes the data analysis and data reporting, and concludes with identifying considerations for research quality, rigour and ethics as well as methodological limitations.

3.2 Critical Realist epistemology

The research adopts a critical realist epistemology, as developed in the works of Bhaskar (1978), Archer and Bhaskar (1998); Sayer (1992), Easton (2000, 2010), Danermark et al. (2002), Archer (2010) and Tsoukas and Chia (2011)⁸. The reason for considering a critical realist stance is threefold: First, a critical realist *epistemology* provides superior congruence between the thesis' *research objective* of explanatory theory development from a qualitative data set and the adopted *network ontology*. Moreover, this combination of epistemological, ontological and methodological approaches has been continuously advanced in the field of business network research, which allowed the researcher to learn from existing work by reading published research (for instance, Harrison & Easton, 2002) and from personal conversations with Geoff Easton in 2011 and 2012, who offered invaluable advice on critical realism informed qualitative case study research. Second, critical realism offers a set of *conceptual tools* to make sense of empirical observations and *guide explanatory theory development*. These conceptualisations include the critical realist understanding of dynamics in polyvalent open social systems, the morphogenetic cycle in structure-agency settings (Archer, 2010) and the development of causal mechanism explanations (Hedstrom, 2005; Mason, Easton & Lenney, 2013; Pawson & Tilley, 2013). Third, critical realist assumptions about knowledge generation support the methodological choice of case study research method (Easton, 2000; 2010).

The following briefly examines key assumptions of critical realism, including the concepts of a stratified reality and the operation of causal mechanisms as an approach to explanatory theory development. An abbreviated version of core assumptions underpinning the critical realist epistemology include (Sayer, 1992; Archer, 2010):

- a) The existence of a *mind-independent reality*.

⁸ This research does not consider the meaning of '*critical*' in the Marxist context of identifying and changing suboptimal social structures. Instead, the term 'critical' is used to refer to the researcher's awareness for the need for critical reflection throughout the research process, which is partly an implication of a stratified understanding of reality and the understanding of inevitable limitations of any research process in capturing 'reality'.

- b) The understanding that perception and knowledge of this reality is *fallible and theory laden*. Evaluating the accuracy and truth value of research findings rests in its *practical adequacy*.
- c) *Analytical dualism*, which captures the interdependence of *structure-agency duality* in a 'morphogenetic cycle' (Archer, 2010, p.276).
- d) A *differentiated and stratified reality*, where natural and social objects possess "powers and liabilities capable of generating events" (Sayer, 1992, p.5). These structures exist regardless of whether they generate regular patterns of (perceivable) events or not⁹.

Critical realism assumes a stratified reality, comprising the 'empirical', 'actual' and 'real' domains:

Table 3.1. Stratified reality.

Adapted from Bhaskar, 1978, p.13.

	Empirical Domain	Actual Domain	Real Domain
Experiences	✓	✓	✓
Events		✓	✓
Mechanisms			✓

The '*empirical domain*' comprises the layer of reality imperfectly perceivable by the researcher through *experience and senses*. The empirical domain includes all that is possibly perceivable, including "the external and visible behaviours of people, systems and things as they occur... [or] are reported" (Easton, 2010, p.120). The '*actual domain*' comprises *events and actions* that a researcher may be partially aware or unaware of, due to limited cognitive capacity that prevents accurate capturing of all empirical events and activities. The '*real domain*' comprises "*structures, mechanisms, powers and relations*" (Ackroyd & Fleetwood, 2000, p.13, emphases added) that are generally *not directly apprehensible* by the researcher, but can be approximated through scientific *inference* – specifically the process of retrodiction - and analysis. Across the three layers of reality, there are 'objects' and 'entities' connected through necessary and/or contingent relations, which together form the "basic theoretical building blocks for critical realist explanation" (Easton, 2010, p.120). The aim of critical realist inquiry is to penetrate the surface level of the empirical and actual domains in order to uncover *generative causal mechanisms*.

⁹ For a comprehensive discussion of critical realist assumptions, please consult Sayer, 1992, particularly from p. 5 onwards.

Identifying ‘causal mechanisms’ is key to meeting the *explanatory* aim of critical realist research, which seeks to answer the question of *what caused the events observed in the empirical domain to happen* (Easton, 2010)? In other words, “to ask for the cause of something is to ask what ‘makes it happen’, what ‘produces’, ‘generates’, ‘creates’ or ‘determines’ it or, ... what ‘enables’ or ‘leads to’ it” (Sayer, 1992, p.104). Easton defines ‘mechanisms’ as “ways in which structured entities by means of their powers and liabilities act and cause particular events” (2010, p.122). Consequently, a *causal explanation* “is one that identifies *entities and the mechanisms* that *connect them and combine* to cause events to occur” (*ibid.*, emphasis added). Figure 3.1 illustrates conceptually the operation of causal mechanisms:

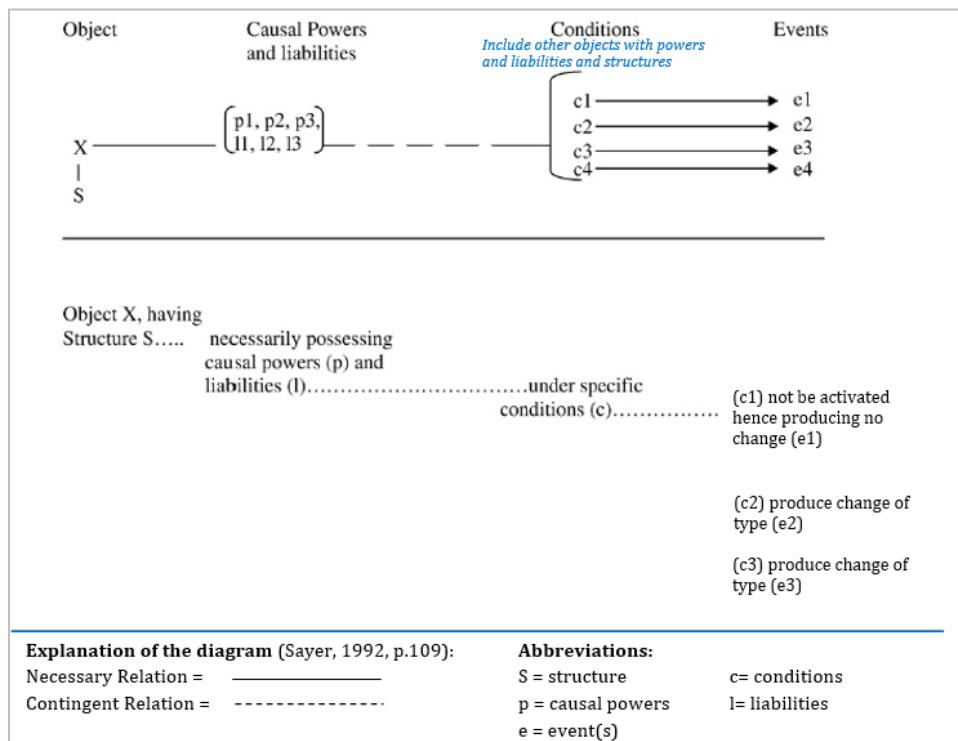


Figure 3.1. Causal mechanism. Adapted from Sayer, 1992, p. 109.

'Mechanisms' in critical realist literature are also referred to as 'deep structures or processes' (considering their emergence in the 'deep/real' domain) or 'generative mechanisms' (considering their power to 'generate' events in the actual and empirical domain). Figure 3.1 illustrates that the relation between objects (or social entities) and causal powers is *necessary*. However, the relation between causal powers and their conditions (also referred to as 'context', which has the *potential* to activate the mechanisms) is *contingent* (Sayer, 1992). Because the activation of mechanisms is *context-contingent*, critical realist research considers context - the structural embeddedness of (social) entities and the *relationships between entities* - seriously. The present research translates this consideration into practical research terms by:

a) Adopting a *network ontology* (Section 3.3);

- b) Using a *layered unit of network analysis* (Section 3.5) to examine the relationships *between entities*;
- c) Presenting it in a defined industry context (see Chapter Four).

Since causal powers do not inhere “simply in single objects or individuals but the *social relations and structures* which they form” (Sayer, 1992, p. 104, emphasis added) it is important that the research ontology and unit-of-analysis informing this research enable the examination of *relationships between entities*. Identifying potential causal mechanisms relies on applying retroductive logic to scientific inference, proceeding backwards from the empirically observable events of the ‘empirical domain’ to the patterns of activities in the ‘actual domain’ to the abstract mechanisms in the ‘real domain’ (Danermark et al., 2002). Retroductive logic assumes that “events are causally explained by retrograding and confirming the existence of mechanisms ... in turn the existence of mechanisms is explained by reference to the structure ... of the objects” (Sayer, 1992, p.235). While deductive and inductive logic allow movements within the ‘empirical layer’ from the general to the particular and vice versa (Easton, 2010), retrogradation implies movement across the three layers of reality from one, empirically observable phenomenon to an abstract mechanism.

3.3 Network ontology

Ontology refers to “assumptions about how the world is” (Easton, 2002, p.108) and seeks to answer the question “What sort of object are we trying to describe and explain?” (Outhwaite, 1983, p.328). Defining the ontological stance is important, clarifying the researcher’s “system of picturing” of the world that guides the questions we raise and the explanatory forms we deem plausible” (Tsoukas & Chia, 2011, p.3), and is closely inter-related with epistemological and methodological decisions.

Critical realist epistemology highlights the importance of investigating not only the *properties of social entities* in context, but also the need to focus on the *interactions* between social entities. This epistemological requirement is addressed in adopting the business network ontology. The term ‘network’ captures metaphorically the complex webs of direct and indirect business interactions. Interactions *between actors* (or ‘entities’) are the building blocks constituting networks. Adopting the network ontology marks a significant departure from the dominant approach in business marketing and management research, particularly evident in the field of risk research, which tends to adopt the single firm as the preferred unit-of-analysis and treat the ‘market environment’ as a ‘response function’ (Mouzas, 2005, p.1272) to the firm’s actions. Such a perspective is rooted in the positivist approach assuming ontological and epistemological atomism (Sayer, 1992) and dichotomy between “marketing action and its context” (Mouzas, 2005, p.1272).

In contrast, the network ontology advanced by the Industrial Marketing and Purchasing (IMP)-group conceptualizes markets as webs of embedded, interdependent relationships between actors, resources and activities (Lundgren, 1992; Waluszewski, Hadjikhani & Baraldi, 2009).

Adopting the network ontology allows leveraging the implications of a critical realist epistemology in two ways:

- (1) The network ontology enables a *contextualised* understanding of business interactions, which corresponds with the critical realist focus on *contextually contingent, causal explanations* of social phenomena.
- (2) The network ontology illuminates the 'multidimensionality' of reality (Sayer, 1992) by moving the unit-of-analysis *beyond the single firm* to capturing *inter-action* at higher levels of aggregation.

3.4 Research methodology: Case study research

The case study research method is used to collect empirical data through: in-depth interviews, business artefact analysis and participant observation. Case study research is understood as a *methodological approach*, referring to the "process where the design of the research and choice of particular methods, and their justification in relation to the research project is made evident" (King & Horrocks, 2010, p.6). This research defines a 'case' according to Dubois and Araujo (2007, p.171, emphases added), who suggest that a case is:

"a complex configuration of events and structures situated in spatial and temporal contexts, which preserves the integral character of social phenomena and which the analyst believes exhibits the operation of some identified theoretical [or causal] mechanism."

This definition illuminates three key characteristics of critical realist informed case study research: a *context-contingent* interplay of *social entities and structures* that can be explained with reference to *causal mechanisms*.

Capitalising on the possibilities of case study research is critical to generate an in-depth, structured analysis of a complex, context-contingent and under-researched phenomenon: dealing with risk in business networks. Specifically, case study research is adopted, because this research requires a methodological approach that:

- a) Allows the investigation of the complex, context-contingent phenomenon of risk in business networks;
- b) Allows the mobilizing of the methodological and analytical possibilities entailed in a critical realist epistemology and network ontology (Ryan et al., 2012);
- c) Facilitates theoretical and methodological triangulation;
- d) Supports the thesis' objective of explanatory theory development (Sayer, 1992; Easton, 2010);
- e) Offers a flexible framework for abductive and retroductive data collection and analysis (Gadde & Dubois, 2002; Danermark et al., 2002).

To inform the empirical application of case study research, this research draws on case study research practices and recommendations from existent work in business network research (for example, Easton, 2000; 2010; Harrison & Easton, 2002; Halinen & Törnroos, 2005; Dubois & Arujo, 2007; Ryan et al., 2012). Specifically, this research addresses 'best practice'

considerations raised by Piekkari et al (2010, p.113) regarding theory development, sampling and research method triangulation:

Explanatory theory development: The objective of this case study research moves beyond generating a descriptive account of “a phenomenon in its real-life context” (Piekkari et al., 2010, p.112) bound to the ‘empirical domain’ of observed evidence. Instead, this research applies the critical realist logic of ‘causal mechanisms’ and abductive case analysis to analytically span the boundaries of the empirical, actual and real domains. This allows for explanatory, analytical generalisation (in contrast to *predictive*, statistical generalisation) based on the intensive analysis of a few cases. Analytical generalisation rests on the identification of the “operation of some identified theoretical principle that distinguishes case study research from an account of a series of events” (Dubois & Araujo, 2004, p.210).

Case selection and sampling: Case study selection follows the principle of purposeful (also referred to as ‘theoretical’) sampling. This sampling principle describes the ongoing selection of cases, chosen to “test or refine new ideas as these emerge from the data. Sites and sources are selected flexibly for their theoretical relevance in generating comparisons and extending and refining ideas, rather than for representational value in allowing generalizations to particular populations” (Dey, 2004, p.80). The advantage of purposeful sampling is that it is congruent with abductive data analysis, because the flexibility of purposeful sampling allows us “to arrive at an appropriate matching between reality and theoretical constructs. Sampling, thus, becomes more of a continuous process than a separate stage in the study” (Dubois & Gadde, 2002, p.559). Case selection is based upon a pilot study of four interviews (conducted in 2011) and preliminary contract analysis, which informed more finely calibrated sampling decisions in recruiting interview participants and collecting business artefacts.

Triangulation of empirical data: In addition to in-depth interviews and participant observation, this research deliberately invested effort into obtaining access to confidential business artefacts-in-use, such as General Terms and Conditions and framework contracts. Triangulating material evidence with verbal accounts has been insightful, since “material traces of behaviour give an important and different insight from that provided by any number of [accounts]” (Hodder, 1998, p.114). Moreover, the analysed business artefacts offer an original perspective of ‘material traces’ not of just *one* actor, but several actors’ *interactions*. This research also applies the triangulation logic within interview- and artefact-based data collection: The selection of interview participants ensured a triangulation of insights from different perspectives, such as retailers and manufacturers, NGOs, industry associations, farmers, and standard auditors. The selection of business artefacts ensured triangulation of different artefact categories such as industry standard documents, GTC and framework contracts, as well as a collection of these artefacts from different actors.

3.5 Unit of analysis

The unit of analysis includes sets of dyadic business relationships. In line with existent business network research, dyadic relationships are understood as building blocks of business networks (Ford & Håkansson, 2006; Gadde, Hjelmgren & Skarp, 2012) and are defined as “an interdependent process of continuous interaction and exchange between at least two actors in a business network context” (Holmlund & Törnroos, 1997, p.305).

This thesis examines dyads as sets of inter-dependent, direct and indirect relationships, which are studied at three levels of aggregation: the network, focal and dyadic levels. This choice is not accidental. While direct dyadic relationships form the preferred unit of analysis within network research for valid practical and theoretical considerations, focusing exclusively on direct dyads is of limited value in understanding business *network* phenomena, and particularly how companies deal with risk through direct *and* indirect relationships. This is because activities observed in direct dyads are not simply additive enough to reflect a network view (Easton, 2010). Therefore, this research answers the call to consider three units (or *levels*) of network analysis (Hulthen, 2012) because “by shifting the focal points...another understanding of the network can be reached and other conclusions drawn” (p.196).

Consideration for the network, focal and dyadic levels is reflected in the thesis’ methodological approach and data reporting: By adopting the ‘embedded case study’ approach (Yin, 1994, p.39), this research understands methodological ‘embeddedness’ as the integration of three interdependent units-of-analysis. The reported empirical data in Chapters Six to Eight reflects the three units-of-analysis by presenting how companies use institutional devices for dealing with risk at the network, focal and dyadic levels.

3.6 Data collection

This research draws on three methods of primary data collection, including semi-structured in-depth interviews, business artefacts and participant observation:

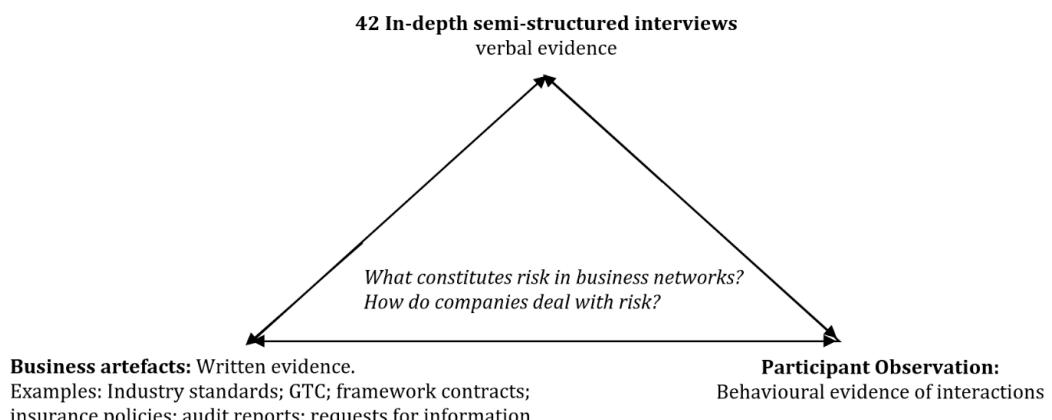


Figure 3.2. Data collection.

Triangulating three data collection methods allowed addressing of the limitations of individual methods and enhancing the robustness of the empirical findings. Data collection was preceded by a pilot study conducted in the summer of 2011, involving four in-depth interviews with food industry experts and a preliminary analysis of a small set of business artefacts, including two contracts and two GTC. The pilot study helped in evaluating the feasibility of the research project and significantly facilitated recruitment of future participants.

3.6.1 In-depth semi-structured interviews

This section justifies the decision to conduct in-depth semi-structured interviews and describes the applied technique and encountered challenges. This research involved conducting 42 in-depth semi-structured interviews in Germany between 2011 and 2014. A full anonymised overview of interview participants is enclosed in the Appendix. The following reasons informed the decision to conduct semi-structured in-depth interviews:

First, this type of face-to-face interview suits the sensitive nature of the topic and allowed: (a) responding to the participants' concern of confidentiality; (b) exploring multiple actors' perspectives; and (c) securing further access through snowball and purposive sampling of participants. Second, in-depth semi-structured interviews support exploratory research through flexible research design that is in 'constant evolution' (Dana & Dana, 2005, p. 82) and allow for "sufficient flexibility to approach different respondents differently while still covering the same areas of data collection" (Noor, 2008, p. 1604).

The adopted interview technique resembles 'responsive interviewing' (Rubin & Rubin, 2005), which facilitates *ongoing data collection and analysis in light of new evidence* and allows a maximum adaptation to a diverse range of interview participants, respective (confidentiality) concerns and possibilities for new insights. Responsive interviewing treats interviews as a:

"dynamic, iterative process, not a set of tools to be applied mechanically. [...] Responsive interviewers begin the project with a topic in mind but recognize that they will modify their questions to match the knowledge and interests of the interviewees" (Rubin & Rubin, 2005, p.30).

Responsive interviewing contrasts with the 'stimulus-response' model prevalent in positivist research, which aims at "standardizing the stimulus or, perhaps a better term, to neutralize it, so that responses may be interpreted clearly and unequivocally" (Mishler, 1986, p. 15). In responsive interviewing, the researcher capitalizes on insights gained from previous interviews and evolving published research to continuously adapt the unfolding interview sessions (Gorden, 1956). Interview outlines were treated as a 'Leitmotif' for each session, with several open questions forming "the skeleton of the interview" (Rubin & Rubin, 2005, p.134). This allows the freedom to capture the participants' accounts without pre-defining or scaffolding accounts into established question-sets. Key to 'responsive interviewing' is that the

researcher actively listens to “each answer to determine the next question based on what was said” (Rubin & Rubin, 2005, p.12) instead of following an ex-ante question set disregarding the participant’s previous response. This approach allows for rich probing and proved invaluable in generating themes that lay outside the common frame of risk management literature.

While ‘responsive interviewing’ clearly contributed to developing a rich data-set, the challenges in using this approach are oftentimes undeservedly overlooked and therefore deserve to be revisited.

First, responsive interviewing assumes that the participant and the researcher are comfortable with an unstructured approach and that the researcher possesses necessary skills in listening, observing, understanding and tailoring subsequent questions based on the ongoing conversation of potentially novel content. These assumptions sometimes clashed with participants’ expectations of receiving a structured interview outline and the researcher’s need to improve her ‘responsive interviewing’ skills throughout the process. To address the issue of participants’ expectations, the researcher decided to replace the word ‘interview’ with ‘conversation’ in her correspondence with potential participants, which was more accurately reflecting the process of ‘responsive interviewing’. This modification helped addressing the baggage of meaning that many participants associated with ‘interviews’, including the association of interviews with pre-structured outlines and media interviews. The learning lesson from this modification is that it is *not sufficient* to eliminate theoretical jargon from the ‘interview’ questions but equal care must be applied to eliminating methodological jargon from communication with participants. It is worth noting that the purpose and *all respective participation rights* associated with ‘research interviews’ were rigorously aligned with the Marketing Research Society’s ethical guidelines discussed in ‘Section 3.10 Research Ethics’.

Second, responsive interviewing requires the skill of framing the next question based on immediate prior accounts. The challenge lies in respectful unpacking of the account without questioning the participant’s expertise and infringing the ‘employer confidentiality’ barrier. Moreover, the challenge was aggravated by the fact that the interview participants ranged from lawyers, members of the food and agricultural ministry, compliance and distribution managers to activists, farmers or on-site auditors. The diversity of participants’ backgrounds required continuous adaptation to multiple expert jargons, including legal, management, agricultural and biochemical jargons. Understanding and being able to converse in this jargon significantly contributed to building rapport, which facilitated rich accounts as well as further snowball sampling of participants. However, this equally required significant preparation from the researcher, who read legislative and governmental reports, recent activist campaigns, audit check-lists, standard catalogues and contracts.

Third, framing questions based on the preceding conversation required the researcher to balance exploration of emerging themes with understanding the main research focus on manifestations of 'risk' and 'how companies deal with risk'. Given the diversity of participants' backgrounds, extensive probing sometimes resulted in detailed but tangentially relevant accounts.

Similar to the observation stated in large-scale research on food retail commissioned by the European Union (Bunte et al., 2011), the researcher faced significant challenges in recruiting participants. To address this issue, the researcher adopted the following techniques:

- (1) Instead of using corporate contact details provided on company websites, the researcher used professional networks - 'LinkedIn' and the German equivalent 'Xing' - to identify and contact relevant participants (based on their CV and current occupation). This helped avoiding that the contact letter would be forwarded to the company's "Media and Public Relations" division, which typically results in a rejection letter. Moreover, the researcher could evaluate participants' professional experience (and prepare the interview session accordingly), as well as identify ex-employees of retailers and manufacturing businesses who were now self-employed or working in consultancies or industry associations and were more willing to participate.
- (2) Attending industry conferences and congresses, including the 'Food Safety Conference' held in Germany annually or the 'GFSI annual conference' held globally, was another route to recruiting participants. However, the limitations of this approach were high attendance fees of up to 2000 EUR per event and the limited time that participants could dedicate to in-depth conversations. Hence, the researcher studied the profiles of congress speakers and contacted all relevant speakers individually. This proved invaluable in securing access to industry experts for *tailored* conversations of up to three hours, which would have been impossible during a congress. In addition to this approach, the researcher secured access to one industry conference organized by the 'Bonn International Centre for Food Chain and Network Research', entitled "*Cross-company quality and risk management along the food supply chain*", held in June 2013 in Berlin. This event offered the opportunity for informal conversations with participants over a two-day period and generated a further pool of relevant interview contacts.
- (3) A further technique involved identifying participants who were working for hub organizations such as industry associations, and consultancies working with clients from the food industry. Such organizations typically employ industry experts who have had previous careers with major retailers or manufacturing businesses. These individuals demonstrated necessary 'detachedness' from a specific company, which facilitated more open and honest accounts, as well as detailed 'insider knowledge' of current issues and

practices. Moreover, these participants proved to have an extensive network of contacts who facilitated further 'snowball sampling'.

(4) Travelling to attend face-to-face interviews was essential to secure contact with participants, establish rapport, and enhance the quality of the collected data. Adapting to participants' preferences regarding time and location helped in addressing participants' confidentiality concerns and often facilitated access to further materials, such as copies of contracts, letters, insurance policies, audit checklists or standard catalogues, which some participants retrieved during the interview.

Despite these efforts, this research experienced limitations in interviewing participants who were directly and currently employed by food retailers and manufacturers. Although more than forty-five further participants were contacted to address this, the most frequent reasons for rejection included fear of infringing employee confidentiality agreements; time constraints; no response. It is therefore even more critical to consider the value of the other two methods of primary data collection: business artefacts and participant observation.

3.6.2 Business artefacts

Consulting business artefacts-in-use as *primary* data in addition to interview accounts allows the capturing of *inter-organisational*, material objectifications of business interactions. For this thesis, the researcher secured access to:

- a) The International Featured Standard (IFS) Food versions five and six; IFS Food Store, IFS Logistics and IFS Broker catalogues and respective IFS communication, including member updates on changes to IFS schemes, training events and IFS Integrity Committee decisions;
- b) Eleven GTC sets, including the GTC of all six German food retailers and manufacturers;
- c) Six framework contracts agreed between German food retailers and manufacturers and some manufacturers and suppliers, alongside respective ordering agreements, insurance policy confirmations and requests for information (also known as supplier-screening agreements).

These are still valid, original artefacts-in-use, which often contain annotations and attachments reflecting negotiated changes. The artefacts were obtained from an individual working for a German food manufacturer who maintains accounts with various German retailers; an individual working for the German food industry federation; and an individual working for a non-food product supplier to German food retailers. The latter was relevant, because retailers use the same GTC and even framework contracts for food and non-food suppliers. Early access to these artefacts was critical, because it informed subsequent interviews. The researcher acknowledged in the interviews that she read those artefacts in advance, which significantly enhanced the depth of the interviews.

Artefacts refer to “concrete things, possessing their own autonomous physicality...which exist independently of their creators” (Suchman, 2003, p.98). GTC and framework contracts are a specific category of legal business artefacts that can be defined as “formally documented arrangements for governing a voluntary exchange relationship” (Suchman, 2003, p.94). Legal artefacts are of relevance to business marketing research, because they specify the *interaction* between resources, activities and actors. Key marketing activities and resources, such as product specifications, distribution conditions and pricing specifications are stated in contracts. As utilitarian devices, legal artefacts provide “intricate frameworks of procedures, commitments, rights and incentives – ... to accomplish practical objectives in the governance of human transactions” (Suchman, 2003, p.99). Existing research highlights the use of legal artefacts as ‘scripts’ for co-ordinating business interactions, while recognising that a ‘script’ may differ from actual performance (D’Adderio, 2008; Suchman, 2003).

Despite recognising its relevance in conceptual terms, *empirical* research involving business artefacts as *primary* data appears limited in business marketing research, where artefacts are often subsumed into ‘secondary’ or ‘archival data’. This research considers business artefacts such as standards, GTC and framework contracts as *primary* data, which refers to written artefacts that are not publicly accessible, but are customized for a specific purpose and *constitute an inherent or essential element of the phenomenon under investigation*. In addition, a wide range of *secondary* data was consulted, including industry and governmental reports, news and trade press to establish the industry context (see Chapter Four) and sensitise the researcher for contextual developments underpinning data collection and analysis.

Business marketing research considering artefacts as primary data appears to favour research of technological artefacts and effects of technology on changing organizational practices (for example, Orlikowski, 2007; Mouzas & Araujo, 2000), with some exceptions exploring the role of contracts (Suchman, 2003; Mouzas, 2006; D’Adderio, 2008; Mouzas & Blois, 2012). Moreover, research considering business artefacts tends to concentrate on *one* category of artefacts (such as contracts *or* standards) in isolation from other artefacts (Garud, Jain & Kumaraswamy, 2002); it focuses on the use of artefacts in an *intra*-organizational setting (D’Adderio, 2011) and consults publicly available *template* artefacts instead of artefacts-*in-use* (Argyres, Bercovitz & Mayer, 2007).

The paucity of research considering business artefacts-*in-use* as primary data appears to be rooted in several reasons:

- (1) Analysis of business artefacts-*in-use* in marketing and business studies seems to lack broadly recognized cases of successfully using this method for generating original findings (with a selection of exceptions mentioned above).
- (2) Compared to other data collection methods, such as interviews or survey research, there are limited publications addressing procedures and conceptual frameworks that

would aid in selecting, analysing, interpreting and reporting findings from business artefacts-in-use.

- (3) Building on the above observations, it may be unclear to researchers *how* research of primary artefacts can contribute to answering research questions and *how* such evidence can be triangulated with other primary data.
- (4) For practitioners, artefacts often constitute mundane aspects of routinely performed activities that are not considered 'novel' or of 'special interest' to researchers and are therefore rarely mentioned in other data collection encounters. It requires proactive effort on the part of the researcher to understand what artefacts are used, by whom, when, how and why.
- (5) Access to certain artefacts such as GTC or contracts may prove difficult due to confidentiality concerns and, considering the above observations, 'not worthy' of the researchers' effort.
- (6) Existing literature on business artefacts only recently started to address the misconception that artefacts are 'insignificant' to marketing practice because of their allegedly 'solid' nature (D'Adderio, 2008, 2011).

Considering these observations, this research adds in three ways to our understanding of using business artefacts in business marketing research: First, this research draws on original artefacts-*in-use* (in contrast to templates), which allows for a comparative analysis of artefacts from different sets of business interactions and the analysis of changes to artefacts. Second, this research examines the use of artefacts in *inter-organisational* business interactions, compared to the predominant focus in existing research on intra-organisational uses of artefacts. Third, this research considers for the first time in the literature the *interdependent* analysis of three categories of business artefacts-*in-use* (industry standards, GTC and framework contracts), whereas previous research focused on analysing *one* category (such as contracts) in isolation.

3.6.3 Participant observation

Participant observation was conducted in June and July 2013 at the leading German risk and crisis consulting firm specialising in German and European food retail and agricultural business. Core consulting services offered by the firm include ex-ante and ex-post risk management, risk assessment and communication with media, consumers, activist groups and governmental authorities, and product recall and/or withdrawal support. Key clients include all major German retailers, including the REWE and EDEKA groups, Lidl and the Metro Group, most of the top brand and private label manufacturers across all product categories, and food industry associations. The consulting firm maintains joint risk management projects with the Federal Ministry for Food and Agriculture and the Federation of German Food and Drink Industries (BE). The researcher gained access through an in-depth interview with the

managing director in June 2012. Considering the consulting firm's leading position in the German food industry, with an unmatched number and range of clients relevant to this research, it offered an ideal 'hub' for participant observation, despite the limitations posed by the non-disclosure agreement.

It is worth noting that this 'participant observation' was not focused on observing the behaviour of individuals *within* the consulting firm, but used as an opportunity to facilitate *further data collection* regarding the consulting firm's *client activities*. The project work allowed the researcher to observe and contextualise the interactions of various clients, such as retailers, manufacturers, representatives of local and national authorities, logistics providers, media and activist groups. The researcher adopted an overt stance and 'active membership role' (Adler & Adler, 1994, p.380), which involved daily work with the firm's consulting team on current projects. Sharing the 'hub office' with the team leader ensured continuous involvement in all ongoing projects, client calls and strategy meetings. Specifically, the researcher worked with five members of the consulting team on risk management projects for two internationally operating dairy producers and manufacturers; one compliance project for a German retailer; and was involved to a minor extent in managing two product recalls of a frozen food retailer-brand manufacturer and a manufacturer-brand soft-drink producer.

Participant observation adds to this research in the following ways:

- (1) While the non-disclosure agreement prevents the use of any material evidence from the researcher's project work, it was agreed to record and transcribe several conversations with the consulting team. These conversations often included reflections on ongoing projects that the researcher was jointly involved in with the respondent and allowed for greater depth compared to other interviews. Moreover, the consulting firm's reputation helped the researcher in securing further access to interview participants outside the firm.
- (2) Exposure to client projects and observation of current cases allowed the researcher to adopt a 'bird's eye' perspective to observing *network interactions between various organizational actors* in the context of a specific client project, which moved beyond the perspective of single companies. Moreover, considering the unwillingness of most participants to disclose details of how companies deal with risk, actual observations of recall/withdrawal activities or compliance with guarantee and insurance terms provided a valuable way for the researcher to contextualise and interpret interview accounts from conversations outside the participant observation phase.
- (3) A less tangible, but critical, benefit of the participant observation phase was the researcher's genuine interest in improving her portfolio of data collection and analysis skills through *practicing different research methods* as well as advancing her understanding of this empirical context for future research.

3.7 Data analysis

Data analysis is understood as an *iterative, recursive and holographic process*, rather than a self-contained 'phase' of research. This section aims to present a structured account of the executed data analysis while preserving the authenticity of this complex process. First, the section describes the applied abductive analytical approach by drawing on the concept of 'systematic combining' introduced by Dubois and Gadde (2002). Second, the section describes how this research translates the logic of 'systematic combining' in the application of specific data analysis techniques.

Figure 3.3 positions the role and approach to data analysis informing this research:

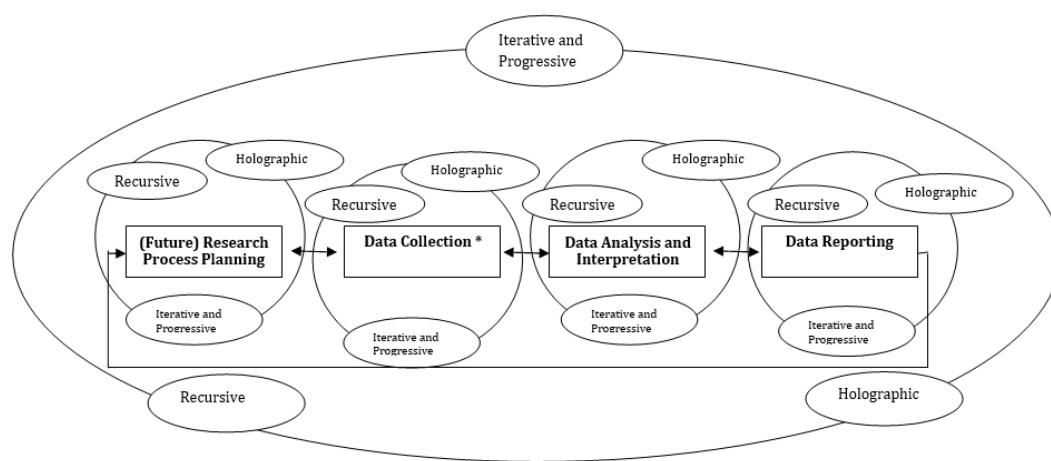


Figure 3.3. Data analysis. Developed from conversations with Ryan, 2010.

Figure 3.3 captures data analysis as a recursive, iterative, progressive and holographic process, which concretizes the idea of 'abductive logic'. *Recursive* means that "one part can call you back to a previous part" (Ryan, 2010) to evaluate evidence from a new vantage point or to generate further data. *Iterative and progressive* refers to the experience that data analysis is a "cycle that keeps repeating". For instance, emerging codes and themes may inform a preliminary theoretical framework, which simultaneously informs the ongoing coding. *Holographic* means that each 'step' in the data analysis process (such as reading original transcript; labelling data pieces with codes; re-organizing descriptive codes into 'pattern codes') *contains the entire process*. This is because the researcher's mind is imprinted with (ongoing familiarization with relevant) theory, and the processes of constantly confronting data excerpts with theoretical knowledge are simultaneous processes that are both *informed by* the whole research process and *informing* the research process. Figure 3.3 captures this latter observation in the 'outer' circle.

In adopting the abductive approach, the researcher:

"starts from the particular... identifies a particular phenomenon - a surprising or anomalous finding, perhaps. ...by inspecting [her] own experience, ...stock

of knowledge of similar, comparable phenomena, and the equivalent stock of ideas that can be included from within other disciplines" (Coffey & Atkinson, 1996, p.156).

To illustrate, in one of the first in-depth interviews, one participant mentioned a particularly surprising phenomenon referred to as 'private food law' in the context of confectionery manufacturers' efforts in dealing with risk. This phenomenon fell outside the conventional scope of 'risk management' literature the researcher was familiar with. This instance illustrates how the researcher inspected her own 'stock of experience and knowledge' and identified the need to look beyond the immediate theoretical, and to some extent, disciplinary boundaries of marketing and business network research to make sense of this concept. In this process, the researcher initially consulted literature on 'private ordering' (Eisenberg, 1976; Macaulay, 1986; Birnhack, 2004), a concept from legal sociology that showed close terminological proximity, empirical and theoretical relevance. Following this theoretical exploration, the researcher examined the broader field of institutional research, which proved invaluable in making sense of this and further concepts emerging from ongoing data analysis, such as 'codification', 'monitoring' or 'sanctioning'. Consulting institutional research proved invaluable beyond making sense of emerging concepts, as it demonstrates congruence with key assumptions of business network research, which is critical for theory development.

This brief illustration captures the essence of data analysis as an iterative process of confronting empirical data with theory. The researcher aimed to bring 'raw data' to "the full range of intellectual resources, derived from theoretical perspectives, substantive traditions, research literatures and other sources" (Coffey & Atkinson, 1996, p.153). Such an approach highlights that "methods of data collection...and analysis do not make sense when treated in an intellectual vacuum and divorced from more general and fundamental disciplinary frameworks" (ibid.). This illuminates the role of theory in qualitative data analysis that helps the researcher to "organize your data, and organize your brain, so that you set the stage for having insight" (Morse, 1994, p.23).

To further systematize and articulate the abductive data analysis process, the researcher adopted 'systematic combining' (Dubois & Gadde, 2002), which significantly contributed to meeting the objective of theory development. 'Systematic combining' describes the simultaneous and inter-dependent evolution of data analysis, the theoretical framework and data collection with the objective of *theory development* (in contrast to theory generation or verification):

"Systematic combining builds more on the refinement of existing theories than on inventing new ones. One major difference, as compared with both deductive and inductive studies, is the role of the theoretical framework. In studies relying on abduction, the original framework is successively modified, partly as a result of unanticipated empirical findings, but also of theoretical insights gained during the process. This approach creates fruitful cross-

fertilization where new combinations are developed through a mixture of established theoretical models and new concepts derived from the confrontation with reality" (Dubois & Gadde, 2002, p.559).

The outcome of applying 'systematic combining' in this research is the successive modification of the theoretical framework, resulting in the synthesis of the network and institutional research, which informs the institution-based explanation of how companies deal with risk in business networks. Having established the general principles of the applied data analysis logic, the remainder of this section zooms in on concrete analytical techniques employed in this research. Describing the employed data analysis techniques serves the objective of providing the reader with information that allows tracking the procedures, assessing the adequacy of the links between data analysis and findings and, ultimately, evaluating the credibility, transferability, dependability and confirmability of the findings (Lincoln & Guba, 1985; Miles & Huberman, 1994).

The first step of data analysis involved converting all empirical evidence into 'text', which resulted in a data set comprising: (a) 42 verbatim interview transcriptions in German, and subsequent translation; (b) business artefacts, including eleven GTC in-use; six sets of framework contracts and ordering agreements and respective insurance policy specifications and standard catalogues. The researcher notes written during the participant observation phase were used to aid interpretation and contextualisation of emerging themes from the interview and artefactual data-sets.

Transcription and translation are regarded as stages of analysis (Kvale, 1996; Arksey & Knight, 1999), because what "passes from tape to paper is the result of decisions about what *ought* to go on paper" (Arksey & Knight, 1999, p.141, emphasis added). In this research, transcription and translation involved verbatim translations (preserving instances where participants clearly emphasized words) but excluded word repetitions, pauses and expressions like laughter (Kvale, 1996). Once the textual data-set was established, the researcher proceeded separately with analysing the interview data and artefactual evidence by performing code-based content analysis and using matrix displays proposed by Miles and Huberman (1994). Content analysis served as a 'diagnostic tool' (Mostyn, 1985, p.117) to make sense of rich textual data, whereas matrices were compact and flexible displays of data. An example of a refined outcome of a matrix approach is offered in Figure 7.1, which compares GTC content across four food retailers.

Interview data was subjected to multiple rounds of content analysis using a combination of open, axial and selective coding (Neuman, 1994). Coding facilitated three kinds of operations, including "detecting relevant phenomena, collecting examples of those phenomena and analysing those phenomena in order to find commonalities, differences in patterns and structures" (Seidel & Kelle, 1995, pp.55-56). Coded interview transcripts and artefacts set the

stage for mapping relations between high-order concepts. In open and axial coding, initial codes were written against 'interesting' data excerpts (individual terms, phrases or passages) and supplementary comments and questions added in the margin. At this stage of three rounds of 'first level coding', the analysis generated a predominantly descriptive list of 250 codes, some of which displayed low code density. 'Interesting' data excerpts were those that appeared as evidence of patterns, regularities, themes, contrasts, paradoxes, irregularities (Coffey & Atkinson, 1996) or particular expressions used by respondents, such as metaphors (for instance, 'avalanche' (ID 20) in relation to risk). Sometimes, the respondent's terms were preserved to create an in-vivo code such as 'modus operandi' (ID 33) or 'liability regime' (ID 15). The researcher also used codes drawn from the literature, such as 'legal sanctions' and 'non-legal sanctions' (Charny, 1990) to label passages depicting such practices. To reduce the number of first-level codes, the researcher proceeded to identify 'pattern codes', which refer to "explanatory or inferential codes ...that identify an emergent theme, configuration, or explanation. They pull together a lot of material into more meaningful and parsimonious units of analysis" (Miles & Huberman, 1994, p.69). Examples of pattern codes are 'codification', 'monitoring', 'enforcement' and 'adaptation' which are conceptually integrated in Chapter Nine, Figure 9.7.

Similar to interview transcripts, standard catalogues, GTC and framework contracts were translated and subjected to the same coding processes as outlined above. The difference was, however, that these artefacts were already organized by 'labelled' clauses and paragraphs. Hence, the descriptive coding phase primarily adopted 'ready-made' codes, but 'pattern coding' was applied to map and compare the content of the standard, GTC and contract terms. Tabulating clauses by 'code/clause' revealed high degrees of similarity across and between GTC and contract terms of actors.

To organize the codes from the interview and artefact analyses, the researcher compiled several versions of 'thematic conceptual matrices' (Miles & Huberman, 1994, p.131). Matrices facilitated progressing from first to second and third-order concepts by "subsuming the particulars into the general" (Miles & Huberman, 1994, p.129) while preserving the integrity and meaning of the original context by including quotation excerpts and respective indexes to direct the researcher to the original location. Coding and matrix creation were performed predominantly in Microsoft Office Word, although initial rounds of interview transcript coding were performed with Atlas.ti. While Atlas.ti facilitated systematic coding displays, it was limited in facilitating links between interview and artefact analysis, and therefore the researcher completed the analysis in Word and by using paper/board displays.

3.8 Data reporting

Data reporting refers to how the empirical findings are organised and presented. To balance 'rich description' with a minimum of redundancy, the empirical evidence is structured

thematically (Miles & Huberman, 1994; Yin, 1994; Eisenhardt 2007). Thematic reporting allows distinguishing a *case study* from a descriptive account, because it is organised to exhibit “the operation of some identified theoretical principle” (Dubois & Araujo, 2004, p.210). In the context of this thesis, the theoretical principle refers to the use of *institutional devices* for dealing with risk at three levels of network interaction. Therefore, the evidence in Chapters Five to Eight is presented according to the three levels of network unit-of-analysis: the network, focal, and dyadic level and respective evidence of the institutional devices used at each level of network interaction. Thematic reporting is also known as ‘phenomenon driven’ reporting (Eisenhardt & Grabner, 2007, p.26), because it “synthesizes the lessons from all [data types] and is organized around [relevant themes]” (Yin, 1994, p.137).

Thematic reporting allows focusing on *who* are the actors and *when, how* and *why* they use institutional devices for dealing with risk. This description is important given the limited research on both the locus and impact of risk in business networks and the content and use of institutional devices for dealing with risk. Reporting the cases thematically was driven by the question *what is my data a case of* (Ragin & Becker, 1992)? Answering this question illuminates that the empirical evidence presents a case of companies using institutional devices for dealing with risk in direct and indirect interactions. Consequently, Chapters Six to Eight report the content and use of the IFS, GTC and framework contracts for dealing with risk at the network, focal and dyadic levels of interaction.

In this way, thematic analysis reflects Yin’s observation of case study research where each “individual case reveals a discovery [in this case, the content and use of an institutional device] but in which the replication across cases also adds up to a significant theoretical [development]” (1994, p.148). By keeping the analytical dimension at the forefront, thematic reporting facilitates theoretical development (Dubois & Gadde, 2002; Eisenhardt & Graebner, 2007) in Chapter Nine. The integrated model of dealing with risk in business networks (Chapter Nine, Figure 9.7) captures the pattern of *codifying, monitoring, enforcing and adapting institutional devices* across the use of institutional devices at three levels of network analysis. This abstraction is further substantiated by the proposition of the causal mechanism of ‘rules’, which may explain in critical realist terms *why* and *how* companies use institutional devices for dealing with risk in business networks. In this way, the combination of the process-model and proposition of the causal mechanism aims to address the tension “between the particular [case evidence] and the universal [explanation]” (Miles & Huberman, 1994, p.173).

3.9 Research quality and rigour

This section establishes how this research addresses credibility, transferability, dependability and confirmability requirements (Lincoln & Guba, 1985)¹⁰ to ensure research quality and

¹⁰There exist several attempts at applying modified understandings of traditionally quantitative parameters (i.e., internal/external validity; generalizability) to qualitative research. Most [85]

rigour throughout the research process. Considering the qualitative nature of this research and the underlying epistemological, ontological and methodological decisions, it is more accurate to consider *qualitative* 'measures' for assessing research quality and rigour (Astley, 1985; Weber, 2004). The following sections therefore briefly define and outline how each requirement was addressed.

Credibility: Credibility refers to the 'truth value' of the findings (Miles & Huberman, 1994, p.278) and is assessed by how congruent the findings are with 'reality' (Merriam, 1998). Credibility is a critical parameter for trustworthiness and is addressed in this research through six practices:

- (1) *Adopting established research methods:* The research draws consistently on established means for scientific enquiry in its field. The combination of a critical realist epistemology, network ontology and case study research has proved useful in previous conceptual *and* empirical studies in the field of marketing and business network research (Perry, Riege & Brown, 1999; Easton, 2000, 2010, Ryan et al., 2010) and is well-suited to address this thesis' research objectives.
- (2) *Developing early familiarity with the empirical field* was accomplished in two ways: First, the researcher prepared for data collection by studying EU and German legislation on food, trade and corporate law, company reports, trade press and available information on participants, including CVs and interviews. Second, the researcher developed familiarity with the German FMCG and retailing business through her internship at the risk and crisis communications division at a German Marketing Communications Agency in Frankfurt in 2010.
- (3) *Triangulation:* This thesis combines triangulation of empirical evidence, research methods and theoretical lenses.
- (4) *Ensuring honest interview accounts* is vital for data quality and was achieved in three ways: Adhering to strict confidentiality agreements (see, for detail, 3.8 Research ethics); establishing rapport with participants through accommodating various time and location preferences for personal meetings; performing member checks on collected data; and triangulating obtained accounts with accounts from other primary and secondary data sources. Member checks were particularly useful, as some participants supplied the researcher with additional documentation or comments upon reading the transcribed data.
- (5) *Continuous internal and external peer scrutiny* comprises continuous academic supervision, formal and informal peer review at conferences or personal conversations and publication attempts: Academic supervision was vital in guiding the research

prominent examples include Yin (1994), Eisenhardt (1989) and Eisenhardt & Graebner (2007). The researcher adopts Lincoln and Guba's (1985) framework for clarity and coherence.

objectives, methods and data analysis in light of an evolving theoretical framework. Formal and informal peer review occurred through regular research presentations at the 'Industrial Marketing and Purchasing Conferences' (IMP, 2012, 2013, 2014); at Lancaster University Management School (2010, 2013; 2016) and personal conversations with scholars in the field of risk and business marketing. Moreover, peer review feedback generated in the publication process enhanced the researcher's understanding of alternative ways of framing her research.

(6) *Extensive and intensive engagement with theory:* Taking the abductive approach to research seriously, the theoretical framework informing this thesis co-evolved with the data collection and analysis processes. This required continuous engagement with theoretical lenses beyond the immediate field of business marketing and resulted in a theoretical framework that synthesises business network and institutional research to generate an institution-based explanation of how companies deal with risk.

Transferability: Transferability refers to the extent to which findings from one case can be applied to other cases (Shenton, 2002). Transferability can refer to empirical case data or analytical transferability (referred to above as 'analytical generalizability'). To address this requirement, this research provides detailed contextual information in Chapter Four to situate the findings in relevant temporal, geographic, legal, social and industry-specific conditions.

Dependability: Dependability enables future researchers to "repeat the work, if not necessarily to gain the same results" (Shenton, 2002, p.71). Hence, this requires detailed explanation of employed research, analysis and reporting methods. Such accounts also enhance the reader's ability to assess if, in fact, adequate research practice was implemented. This requirement is addressed throughout this chapter, particularly in the sections detailing the data collection and analysis processes.

Confirmability: Confirmability ensures that findings are accurate and truthful representations of the respondents' experiences, ideas and accounts. This requirement has been addressed by the measures discussed above, including triangulation of research evidence, methods and theory; reflective research practice; the detailed methodological account presented in this chapter; and identification of relevant research limitations (see Section 3.9).

3.10 Research ethics

This research complies with relevant ethics guidelines published by the Marketing Research Society (MRS), including the "MRS Guidelines for Business-to-Business Research" (MRS B2B, 2011) and the "MRS Guidelines for Qualitative Research" (MRS QR, 2011), as well as relevant academic publications addressing ethics considerations in qualitative research (Kvale, 1996; Ryen, 2004; King & Horrocks, 2010).

Table 3.2 summarises how the present research addresses pertinent ethical considerations detailed in the MRS guidelines. The selection of nineteen guidelines considers three main areas of concern to the present research: obtaining informed consent, ensuring confidentiality and anonymity of collected data, and managing incentives.

Table 3.2. Research ethics.
Based on MRS B2B and QR Guidelines (2011).

Guideline	Implemented measures
<i>Informed Consent</i>	
(1) Research participation is based on informed consent	All interview participants received a signed electronic version of the letter of intent upon first contact
(2) Researcher maintains professional and honest approach.	Guidelines 2-6 are addressed in the "letter of intent" provided to each participant. The electronic messages asking for participation included three sections clarifying:
(3) Transparency of subject and purpose of data collection.	<ul style="list-style-type: none"> ▪ The purpose for contacting the participant, the subject and scope of this research; ▪ The name and contact details of the researcher, the institution and academic supervisor; ▪ The estimated duration of the interview; ▪ That participants are free to withdraw at any stage of the research; ▪ How data is collected, anonymised, transcribed, stored and reported; ▪ The participant's right to review the data at any stage prior to its publication; ▪ A sample of key questions; ▪ A range of suggested meeting times and locations (to minimize the participants' financial and time investment); ▪ Options for contacting the researcher for further details.
(4) Participants are clearly communicated:	<ul style="list-style-type: none"> ▪ Interviewer name ... ▪ Compliance with MRS Code of Conduct; ▪ The subject, purpose and likely duration of the interview;
(5) Participants must not be misled.	
(6) Participants have the right to withdraw at any stage.	
(7) Follow-up contact with participants must be agreed in the previous contact.	The researcher obtained consent to re-contact all participants via phone, e-mail or personal meetings for further clarification or follow-up interviews.
(8) Researchers must respect the rights and well-being of participants.	The participants' well-being was respected by obtaining informed consent and ensuring that participants' preferences regarding meeting time, location and duration were observed as much as possible. The researcher travelled across Germany to meet participants in various locations, including offices, homes, cafes or cars.
(9) Participants are reassured that data are used only for stated research purposes.	This concern was addressed in the letter of intent and through verbal confirmation during the introduction and/or de-briefing phase of the interview.
<i>Data Confidentiality and Anonymity</i>	
(10) Researchers must respect the confidentiality of collected information.	Data confidentiality was observed by signing the letter of intent and implementing agreed data storage and reporting practices.

Guideline	Implemented measures
	<p>Data confidentiality involves:</p> <ul style="list-style-type: none"> ▪ Secure data storage ▪ Anonymising data for transcription, translation and analysis processes ▪ Non-disclosure of any personal or interview information identifying individual participants to other participants or readers ▪ Using obtained data strictly for the stated purpose <p>The <i>confidentiality agreement regulating the participant observation</i> phase required:</p> <ul style="list-style-type: none"> ▪ No disclosure of project details to third parties ▪ No statement of the company name on the researcher's CV ▪ No hard or soft copies of any material from the company PC, databases or e-mail exchanges. ▪ No audio recording, unless individually agreed with the employees
<p>(11) Anonymity of participants must be preserved, unless informed consent is obtained to reveal identification details.</p> <p>(12) Qualitative data labelled as anonymised must not contain identifiable data</p> <p>(13) All hard copy and electronic data must be stored, transferred and processed securely in accordance with relevant data protection policies.</p>	<ul style="list-style-type: none"> ▪ Participant information was anonymised by allocating each participant an identification number (ID) that has been used throughout the transcription, translation and reporting phases. ▪ Access to the table matching participant ID with further information is exclusive to the researcher and academic supervisors. ▪ All business artefacts are anonymised.
<p>(14) Only <i>relevant</i> personal data must be collected.</p>	<p>The researcher collected only essential participant information, including the full name, organization, professional role, preferred contact e-mail address and/or phone number.</p>
<p>(15) Researchers must ensure that participants are not adversely affected by their professional activities</p>	<p>In response to this requirement, the researcher</p> <ul style="list-style-type: none"> ▪ Strictly adhered to confidentiality requirements; ▪ Anonymised all collected data; ▪ Met several participants outside their work environments, such as cafes, homes and cars.
<p>(16) Researchers must not reveal to any other participants any details regarding their identity or response details</p>	<p>This concern was addressed by the researcher's alertness during interviews (and participant observation), as multiple participants voiced interest to know who else participated in the research.</p>
<p>(17) Researchers must fully inform participants about what will be revealed, to whom and for what purpose</p>	<p>This concern was addressed in the letter of intent and through verbal confirmation during the introduction and/or de-briefing phase of the interview.</p>

Guideline	Implemented measures
Incentives	
(18) Incentives: offering a brief report summary may be used as an encouragement for participation.	The researcher offered participants the opportunity to obtain an abridged version of key findings from this research. This report contains a section stating relevant research limitations.
(19) Researcher must inform participants of potential research limitations.	

3.11 Limitations

This section identifies the limitations arising from the epistemological, ontological and methodological choices. Adopting a certain epistemological and ontological stance necessarily predefines what the researcher deems 'valuable' and what ought to be documented for analysis. While a critical realist epistemology and network ontology provide a valid fit with the thesis' research objectives and methodological approach, it offers only 'one window' upon a complex reality, and alternative paradigmatic choices may yield different insights. For example, analysing the empirical evidence from a constructivist point of view would allow exploring how meaning is constructed in material artefacts and verbal accounts, and particularly lend itself to analysing power themes in the empirical context of food retailer-manufacturer networks (Hingley, 2005). While this research acknowledges the limitations of critical realism (Contu & Willmott, 2005; Al-Amoudi & Willmott, 2011) regarding the construction of knowledge claims, it embraces critical realism as a frame for discussing its own and alternative assumptions (Reed, 2005) by fully accepting the "inevitability of the hermeneutical circle [which] underlies all of human knowledge" (Zinkhan & Hirschheim, 1992, p.86). This stance acknowledges the potential and limitations of various paradigmatic choices, in agreement with Easton's comment that a paradigmatic choice is not there to offer "definite answers, [rather] it can ask relevant questions and provide some guidance and justification for certain courses of action" (2002, p.108).

Another set of limitations emerges from the employed methodological approach and research methods. To allow for comparative research across markets, it would be useful to examine how companies deal with risk beyond the present context of German food retailer-manufacturer networks. Moreover, there are limitations pertaining to each research method:

- a) *In-depth interviews*: This research would benefit from a greater number of in-depth interviews with participants who *currently* work for retailing or manufacturing companies and from participants *directly* interacting in dyadic retailer-manufacturer or manufacturer-supplier relationships. Due to access limitations, the present research relies to some degree on accounts of industry experts who had previously worked for retailers

or manufacturers. This 'detachment' may encourage rationalisation and conflation of activities considering later events.

b) *Business artefacts*: While this research offers one of the few ventures into researching original artefacts-in-use, including GTC and framework contracts, better insight could be generated if the researcher could compare GTC and contracts over a longer period to track the evolution of changes to the artefacts over time. Although this was achieved to some extent, it would be useful to analyse artefacts used in the years 2000-2004. Considering the profound changes to European and German legislation, it would be useful to examine how those artefacts evolved and compare them to those currently used.

While the current research focused primarily on the utilitarian value of business artefacts in dealing with risk, it neglects the analysis of *symbolic* meaning of artefacts in business relationships and the inscription of agency and power (Suchman, 2003). Moreover, the given set of business artefacts-in-use would lend itself to analysis *from a different epistemological and theoretical vantage point*, considering performativity and materiality literature (D'Adderio, 2011). Adopting this perspective would enhance our understanding of ostensive and performative dimensions of business artefacts in the *inter-organisational* context and would be of particular relevance in the context of risk in business networks.

c) *Participant observation*: While this method was invaluable in contextualising data, the confidentiality constraints significantly limited its potential. Future research would benefit from participant observation that allows for greater use of artefacts dealt with during participant observation and disclosure of project information related to how companies deal with risk.

3.12 Conclusion

This chapter introduced the thesis' positioning in the critical realist epistemology and network ontology and explained the decision to conduct qualitative case study research underpinned by in-depth interviews, business artefact analysis and participant observation.

The chapter highlighted the value and original contribution of this research in: (a) considering three inter-dependent levels of network units-of analysis; and (b) collecting and analysing *sets of business artefacts-in-use* as primary data sources.

The empirical evidence generated from this methodological approach is reported in the following four chapters: Chapter Five describes the locus and impact of risk in food retailer-manufacturer relationships. Chapters Six, Seven and Eight systematically report how German food retailers and manufacturers use three institutional devices – the International Featured Standard, GTC and framework contracts - for dealing with risk at the network, focal and dyadic levels of interaction. This thematic approach to reporting empirical evidence reflects the network unit-of-analyses and consideration of business artefacts as primary data sources.

CHAPTER 4

INDUSTRY CONTEXT

CHAPTER 4. INDUSTRY CONTEXT

4.1 Introduction

This chapter defines the context and the industry in which the empirical research has been conducted. The empirical research has investigated how companies deal with risk in food retailer-manufacturer networks. The food industry operates in a complex economic, socio-cultural and regulatory context that shapes and is shaped by various organisational actors operating increasingly beyond the German market. This chapter examines: a) the economic, socio-cultural and regulatory environment; and then zooms into describing b) relevant business actors and industry-specific developments. This contextual account sets the foundation for reporting and analysing the empirical evidence in the subsequent chapters.

4.2 Economic, socio-cultural and regulatory environment

Economic situation:

Germany is the fifth largest economy in the world and the strongest Eurozone economy (CIA World Factbook, 2013). Key drivers for economic growth have traditionally been the trade surplus generated from *exports* of manufactured goods, a developed infrastructure, high capital stock, and a skilled labour force. The consequences of the global financial and European Union debt crisis in 2008/2009 have slowed economic growth among Germany and its trade partners. As the second largest exporter in the world, the subsequent recession hit Germany's trading partners and resulted in a record low GDP growth of -5.1% in 2009 (IMF World Economic Outlook, 2012). The weak GDP growth of 0.4% in 2013 was the worst since 2009, although experts predicted recovery of a 2% increase for 2015. Despite disappointment over low GDP growth, Germany still performed above the EU average, owing growth to increased domestic demand (FT, January 2014). The relatively high domestic demand generated rising imports and is caused by real wage gains, low interest rates boosting investment expenditure and low unemployment that is projected to fall by a further 0.5% in 2015 (OECD Economic Outlook, 2013), which makes Germany an attractive market for fast-moving consumer goods, including food.

Socio-cultural environment:

Socio-cultural factors generate important implications for Germany's food industry: Demographic decline and changing household composition, price sensitivity and German consumers' pronounced distrust towards the food industry influence consumer preferences, spending and shopping patterns.

Germany is the EU's largest country with a population of 81.24 million (Eurostat, 2012), and faces the worst demographic decline compared to other member states. The negative population growth rate of -0.1% (World Bank, 2011) implies an increasingly reversed age-pyramid, with the elderly outweighing the younger population, as well as increasing reliance

on immigration. In contrast to most German households, immigrants live in family households and have higher birth rates (Hamburgisches Weltwirtschaftsinstitut, 2013). Immigrants form an increasingly significant consumer segment who require internationalised and specialised product ranges, such as Halal meat, at very competitive prices. This results in retailers and manufacturers exploring opportunities for efficient international food supplies, including 'exotic' ingredients and changes to packaging and labelling.

Another trend in German household composition presents a significant rise in single households driving demand for convenience in product range and store location. Until 2025, 40% of German households in urban centres such as Berlin, Hamburg and Frankfurt are expected to become 'single households' (Hamburgisches Weltwirtschaftsinstitut, 2013). This segment has higher disposable income and generates higher values of sales per person, which in turn drives retailers' and manufacturers' interest in catering to its demand for convenience. Moreover, this segment is increasingly concerned with food 'process attributes' such as sustainable sourcing, animal welfare, organic farming, and ethical trading practices. This results in companies' efforts to 'prime' these attributes through the use of various 'certification labels' and the rise of specialised food retailers such as 'Alnatura', 'tegut' and 'Reformhaus', who tap into the food retail market despite maintaining a limited market-share.

Despite these developments and average salaries climbing 3%, the major long-term trend among German consumers remains the pronounced price-sensitivity and reluctant spending on food, crowning the German consumer as the most 'frugal' of all EU countries (Eales, 2012, p.20). The consumers' profound price-sensitivity, coupled with highly competitive retailer offers, results in Germany reporting the lowest fast-moving consumer goods price-index across Europe (Nielsen, 2013). Moreover, price-sensitivity translates into the continuous success of discounter-format stores such as Aldi and Lidl across all income ranges, and the significant rise in retailer-brand products. Discounters pioneering the concept of retailer-brand products have reached above average growth of 8% compared to moderate overall growth in food retail of 1.5% (Handelsblatt, 2013), and retailer-brands account for 40% of all sales revenue in food retail (Lebensmittelzeitung Handelsmarken, 2013). In fact, 87% of consumers trust that the quality of retailer- and manufacturer-brands is the same (Handelsmarkenstudie, 2013), and retailer-brands increasingly seek to satisfy all German consumers' purchasing criteria beyond price, including sustainability and social responsibility (Statista, 2012, consumer purchasing criteria).

German consumers' price-sensitivity results in two trends among retailers and manufacturers: (a) building cost advantages through economies of scale and backward quasi-vertical integration; and (b) the proliferation of retailer-brands, which strengthens retailers' bargaining power vis-à-vis manufacturers. For manufacturers, this creates the need to

compete for less shelf space, to price manufacturer-branded products competitively, and to constantly innovate offerings.

Although the German food industry enjoys renowned status for offering the highest food quality and safety globally (Lebensmittelwirtschaft, 2013), German consumers demonstrate the lowest confidence rating towards the food industry across the EU. This phenomenon is referred to as the German food industry's 'confidence crisis', which has been further amplified through a series of real and alleged food safety incidents, followed by extensive media coverage and activist campaigns. The expressed 'confidence crisis' is relevant to German food retailers and manufacturers because it: (a) creates short-term costs through product boycotts and public product recalls, despite no adverse health effects and heavy investment in trust and image building campaigns; and (b) long-term costs triggered by activist-motivated political actions such as stricter regulations for product quality, packaging and labelling.

German consumers' distrust towards corporate actors fuels a diverse and powerful network of actors, including professionally organised consumer protection groups, media specialising in investigative journalism and anti-corporate reporting, and the 'green party'. For various reasons, such as funding, increasing sales and political support, these actors constantly monitor and publicly scrutinize food industry actions. As most actors are at least partly funded by the government, such as the consumer protection groups "Stiftung Warentest" or "Verbraucherzentrale", or the TV and broadcasting channels "Das Erste" or "3Sat", these actors tend to benefit from increased credibility and consumer trust compared to food businesses. In fact, 61% of consumers trust 'independent' reports from consumer protection groups, whereas only every fifth consumer trusts food businesses (Die Welt, 2013). With 70% of consumers feeling misled by packaging and ingredient information (Statista, 2011, consumer perception) and 65% of consumers trusting negative news about the food industry (Die Welt, 2013), food retailers and manufacturers face the need to meet the highest product quality and social and environmental standards.

Regulatory environment:

Following a series of food safety incidents throughout the 1990s and increasing internationalisation in food sourcing, manufacturing and retailing activities, the EU and German governments launched the 'European Food Law' (2002) and the German 'Lebensmittel- und Futtermittelgesetzbuch' (LFGB, 2005). It is critical to consider the provisions, limitations and interdependency of the EU and German food laws to better understand companies' use of industry standards, GTC and contracts for dealing with risk. With the launch of new regulations, the food industry became one of the most regulated sectors, with provisions covering every stage 'from farm to fork'.

The EU food law materialised in enforcing the regulations (EC) No. 178/2002 and (EC) No. 882/2004, which override national food laws and the creation of new institutions - the

European Food Safety Authority (EFSA), the Rapid Alert System for Food and Feed (RASFF) and the Food and Veterinary Office (FVO) – which deal with food safety¹¹. The (EC) Reg. No. 178/2002 regulates the responsibilities of all food-chain actors, the EFSA and the RASFF. Most notably, the regulation emphasises food safety by attributing major responsibilities for risk prevention to corporate actors, rather than adopting the traditional way of allocating such responsibilities to governmental institutions. To this end, the European food law has been innovative in ensuring pan-European food safety through defining: (1) product recall/withdrawal responsibilities; (2) risk communication and information sharing responsibilities of corporate and governmental actors; (3) traceability; and (4) food import/export requirements; and (5) transnational crisis management procedures.

A key passage from (EC) Reg. No. 178/2002, Art.19, entitled “Responsibilities for food: food business operators” illustrates the shift in responsibility for food safety to corporate actors:

*“If a food business operator considers or *has reason to believe* that a food which it has imported, produced, processed, manufactured or distributed is *not in compliance with the food safety requirements*, it shall *immediately initiate procedures to withdraw the food* in question from the market where the food has left the immediate control of that initial food business operator and *inform the competent authorities* thereof. Where the product may have reached the consumer, the operator shall *effectively and accurately inform the consumers* of the reasons for its withdrawal and if necessary, recall from consumers products already supplied to them when other measures are not sufficient to achieve a high level of health protection.”*

Moreover,

*“a food business operator shall *immediately inform the competent authorities* if it considers or *has reason to believe* that a food which it has placed on the market may be injurious to human health” (emphases added).*

¹¹The European Food Safety Authority (EFSA) located in Parma (Italy) work on risk assessment for food/feed safety to provide impartial scientific research to the European Commission on potential risks related to all aspects of the food industry and consumption (i.e., tolerable pesticide residue levels; potential health impact of GMO).

The Rapid Alert System for Food and Feed (RASFF) is an electronic system used by all member states as well as Switzerland, Norway, Iceland and Lichtenstein to enter alerts for food/feed products that may pose a health or safety risk. “Alerts are triggered by the member of the network that detects the problem and has initiated the relevant measures, such as withdrawal or recall” (RASFF, Annual Report, 2011, p. 9). ‘Information’ or ‘border rejection’ alerts notify other members of “consignments of food/feed/food contact material that was refused entry to the EU for reason of a risk to human health...animal health...or to the environment” (RASFF, Annual Report, 2011, p. 10). Data entered into the RASFF is coordinated by the European Commission, who collects, verifies and distributes food/feed safety information to all EU members to enable immediate action. The number of alerts continuously increased from 429 in 2002 to 3516 original and 5281 follow-up notifications in 2012 (RASFF Annual Report 2012), which reflects increased volume in international food trade and increasingly accurate detection methods. China is leading in ‘dangerous product’ imports, which is due to its role as the highest food exporter to Europe by volume. The most frequent causes for alerts are detection of pathogenic micro-organisms, heavy metals, allergens and mycotoxins, all posing serious health risks to consumption.

The paragraph illustrates a novel shift in legislation that places primary responsibility for food safety with corporate actors, who are liable for food safety incidents because they are "best placed to devise a *safe system* for supplying food and ensuring that the food it supplies is safe" (Preamble (30), (EC) No. 178/2002). In practice, this translates into companies' duties to demonstrate the operation of food safety monitoring systems and the proactive communications with respective authorities in case a product is *believed* to pose any risk to consumer health or safety. Emphasising that it is sufficient to 'believe' in potential food safety risk is evidence of the newly practiced precautionary principle' (Art. 7, (EC) No. 178/2002) aiming at pre-empting risks from occurring in the first place. To prove the implementation of food safety monitoring systems is part of the new 'due diligence' demands and requires tangible evidence to free a company from liabilities. Typically, 'due diligence' is proven by evidencing employment of specialised product safety/quality management personnel, check-point and traceability systems, as well as full documentation of packaging, transport and sub-contracting activities. Finally, all elements of the 'food safety system' must evidence regular documentation, because

"food and feed business operators at all stages of production, processing and distribution with the business under their control shall ensure that foods or feeds satisfy the requirements of food law which are relevant to their activities and *shall verify that such requirements are met.*" (Art. 17 § 1 (EC) No. 178/2002, emphasis added).

Specifically, companies must document the product data to prove 'due diligence' - not only to governmental authorities but also to the public. One of the most unwelcome EU regulations for corporate actors appears in Art.10 (EC) Reg. No. 178/2002 covering "Public information requirements":

"Without prejudice to the applicable provisions ...of national law on access to documents, where there are *reasonable grounds to suspect* that a food or feed may present a risk for human or animal health, then, depending on the nature, seriousness and extent of that risk, *public authorities shall take appropriate steps to inform the general public* of the nature of the risk to health, *identifying to the fullest extent possible the food or feed*, or type of food or feed, the risk that it may present, and the measures which are taken or about to be taken to prevent, reduce or eliminate that risk."

While this passage grants governmental authorities the right to publicly name the product that may on 'reasonable grounds' pose a risk to human health, it jeopardises companies' concern for further damage to the industry's and companies' reputation due to publication of incidents on grounds of 'suspicion' rather than 'proof'. Following the horsemeat incident, German authorities further lowered the threshold for claiming 'reasonable grounds' to 'name and shame'.

Although the EU food law was created in the record time of two years, setting a global milestone in regulating food safety across 27 nations, it remained necessarily limited to

general principles and required a transition time of three years, with some regulations being enforced as late as 2005. The ‘regulatory vacuum’ was further amplified by Germany’s bureaucratic structure, consisting of 16 independent sub-states, which prevented immediate translation of EU regulations at the national level. While German food companies utilised this ‘regulatory vacuum’ for designing corporate institutional initiatives, such as the International Featured Standard (IFS), the German government requested the right to ‘adapt’ the EU food law in its own German food regulations codified in the LFGB (2005). The most notable LFGB regulations concern the following:

- (1) *The transition from “chain” to “tier responsibility”*: Prior to the launch of the European food law and the LFGB, German food businesses were subjected to the ‘chain responsibility’ principle, which made every company handling food liable for the product condition regardless of whether the non-conformities had been caused at previous tiers of the food supply chain (Simon, 2007). The disregard for the stage at which non-conformities occurred mostly burdened *manufacturers and retailers who were liable for faults that may have been caused outside their immediate sphere of action*. This liability burden has historically triggered retailers and manufacturers to design contracts that aimed at reversing the impact of this regulation by shifting quality control responsibilities and guarantees to suppliers. The shift to ‘tier responsibility’ allocates liability for food safety only at its respective stage of production *in addition to obvious* deficiencies from previous stages.
- (2) *Stricter requirements for product recall/withdrawal and authority-induced product recall*: While product recalls and withdrawals are daily business for most food manufacturers and retailers, all food businesses are interested in proactively self-administering these procedures instead of being subjected to it publicly by governmental authorities. However, in going beyond the EU regulations, the LFGB grants governmental authorities the right to *initiate* a public recall if a product poses or is *believed* to pose a hazard to consumer health and safety, or is classified as ‘unfit for consumption’.

Despite the EU’s efforts to standardise and unify food law regulations, the German market poses an exception, characterised by significant fragmentation and complexity: Each of the German 16 federal authorities operate with idiosyncratic reporting and auditing requirements, which results in dispersed federal monitoring activities across 430 offices and 30 accredited testing laboratories. The 16 federal authorities are accountable to three national ministerial bodies, including the Federal Ministry for Food, Agriculture and Consumer Protection (BMELV), the Federal Ministry for Risk Assessment (BfR) and the Federal Office for Consumer Protection and Food Safety (BVL):

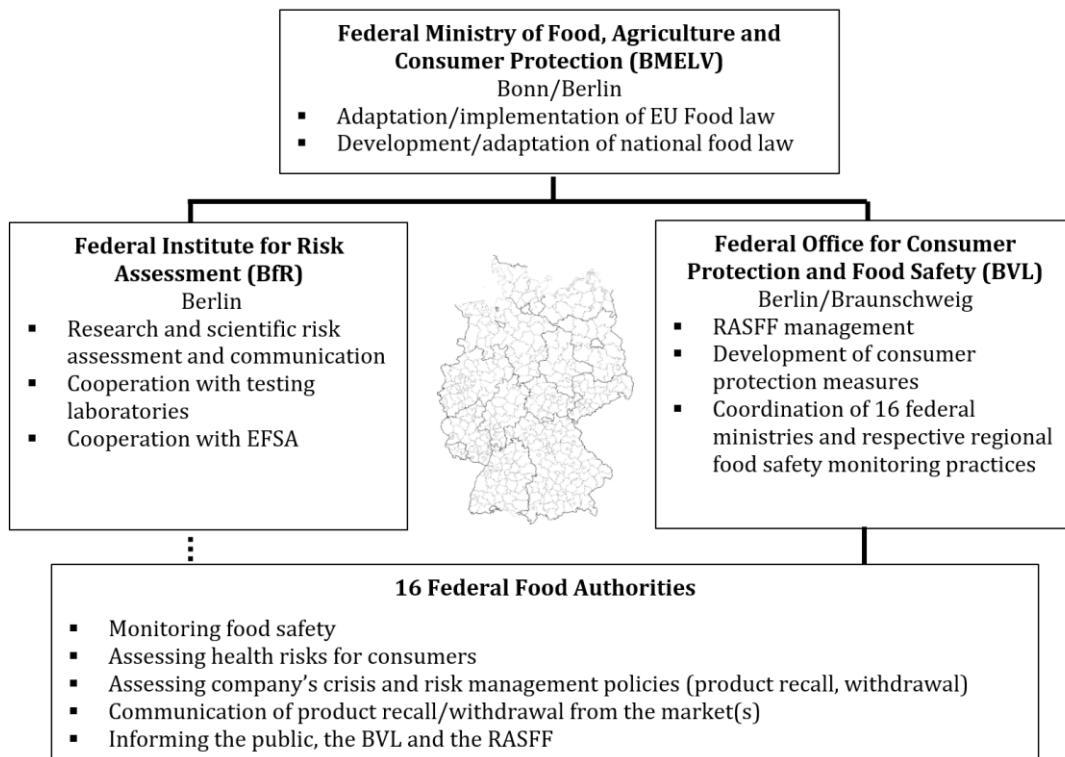


Figure 4.1. German food regulation authorities. Developed from the EU Food Almanac, 2011.

Each of the 16 federal authorities is independently responsible for implementing EU regulations and monitoring all food businesses 'from farm to fork'. Such fragmentation challenges companies operating in more than one federal state and creates significant complexity in communication between authorities horizontally (i.e., federal authorities across different states) and vertically (i.e., authorities at the federal and national levels). At the national level, the BfR co-operates with the EFSA and is responsible for risk assessment and defining legally binding norms such as maximum residue levels or packaging requirements. BfR's risk assessment informs BVL's development and recommendation of consumer protection measures to the BMELV. The German food law is therefore not static, but continuously evolving in light of new food safety incidents, production technologies and trade patterns, as well as more accurate scientific risk assessments. Almost every major food incident, including the E.coli-outbreak (2011), findings about migratory plastic substances in chocolate packaging (2012) or the horsemeat incident (2013) triggered political discussions about stricter regulations.

Despite significant changes to governmental food laws, the major weakness resides with the authorities' relatively low sanctioning powers. Apart from prison sentences for deliberate offence or severe harm to human health, financial sanctions for non-compliance (such as alert delays in warning consumers of health risk or missing documentation) range from twenty to one hundred thousand Euros. Compared to sanctions in contractual retailer-manufacturer agreements, governmental sanctions are relatively ineffective.

4.3 Business actors and industry context

The German food industry is characterised by significant consolidation among retailers, manufacturers, wholesalers and commodity traders, who, in response to consumer price sensitivity and fierce competition for consumer share, enhance efficiency and cost savings through economies of scale and reduction in intermediaries (Commerzbank Report, 2013). The German market shows a noticeable absence of foreign retailers (Stiegert & Kim, 2009) due to high entry-barriers that even Wal-Mart and Intermarche have failed to overcome. Therefore, Germany's five major retailers – Aldi, Edeka, Rewe/Penny, Metro/Real and the Schwarz Group (owning Lidl/Kaufland) – together hold a market-share of 90% (RP, 2013)¹². Of these retailers, Aldi, Lidl and Kaufland – known for retailing primarily retailer-brands – are the top three German retailers measured by market share. Idiosyncratic to the German market are retailers including Rewe and Edeka, who operate multi-format supermarket stores *and discount* stores, as evidenced in the table below:

Table 4.1. German food retailers.

	EDEKA Group	REWE Group	Schwarz Group	Aldi Group
Founded	1898	1927	1973 (Lidl), 1984 (Kaufland)	1913
Business Portfolio	<ul style="list-style-type: none"> ▪ Food retail ▪ <i>Edeka Großverbraucher service</i> ▪ EDEKA Bank and Insurance ▪ Lunar IT Services ▪ LGH vehicle/property leasing ▪ EDEKA Versorgungsellschaft mbH (electricity supply for all EDEKA owned properties) ▪ EDEKA buying cooperatives ▪ EDEKA fruit, wine and flower buying cooperatives ▪ Multiple EDEKA meat processing and manufacturing companies (e.g., 	<ul style="list-style-type: none"> ▪ Food retail ▪ Meat processing and manufacturing ▪ Consumer electronics and DIY retail ▪ Travel operators 	<ul style="list-style-type: none"> ▪ Food retail ▪ Kaufland meat processing ▪ Schwarz Group E-Commerce ▪ Schwarz Group Property Management 	<ul style="list-style-type: none"> ▪ Aldi North ▪ Aldi South

¹²The remaining market share is split between smaller regionally active or specialised retail chains such as Tengelman, Lekkerland, Alnatura, tegut and a growing number of drug stores such as Rossmann, dm, Budnikowksi and Mueller, who specialise in household products but increasingly retail health foods.

	EDEKA Group	REWE Group	Schwarz Group	Aldi Group
	<p>Gutfleisch, Nordfrische Center Fleisch, Schwarzwaldhof, Bauerngut, Rasting, Franken- Gut, Südbayrische Fleischwerke)</p> <ul style="list-style-type: none"> ▪ Small businesses: travel agencies, bakeries, sports centres, beverages retailers, electronics retail, do-it-yourself (DIY) markets. 			
Food Retail Portfolio	<p>B2B:</p> <ul style="list-style-type: none"> ▪ Edeka Cash & Carry ▪ Rullko Großeinkauf ▪ Stroetman <p>B2C EDEKA branded stores:</p> <ul style="list-style-type: none"> ▪ Edeka NP-Markt ▪ EDEKA nah und gut ▪ EDEKA aktivmarkt ▪ EDEKA neukauf ▪ EDEKA center <p>Stores not operating under the 'EDEKA' brand in Germany but belonging to the EDEKA group:</p> <ul style="list-style-type: none"> ▪ Spar ▪ Aktiv discount (partly rebranded as E-center) ▪ Marktkauf (Hypermarket) ▪ NettoMarken Discount ▪ Plus 	<p>B2B:</p> <ul style="list-style-type: none"> ▪ Wholesale stores Fegro and Segros – <i>recently divested</i> <p>B2C REWE stores:</p> <ul style="list-style-type: none"> ▪ REWE <p>Stores not operating under the 'REWE' brand but belonging to the group:</p> <ul style="list-style-type: none"> ▪ Billa (in Austria only) ▪ Penny Market (and Penny market XXL in Romania) ▪ Nahkauf ▪ Toom (hypermarket) ▪ Kaufpark ▪ Penny Markt 	<p>B2B activities have been divested in 2002</p> <p>B2C:</p> <ul style="list-style-type: none"> ▪ Lidl (Discounter) ▪ Kaufland (hypermarket) 	<p>Only B2C:</p> <ul style="list-style-type: none"> ▪ Aldi (Nord) ▪ Aldi (Süd) <p>Stores not operating under the 'Aldi' brand but belonging to the group:</p> <ul style="list-style-type: none"> ▪ Trader Joe's (USA only) ▪ Hofer (Austria and Slovenia only)
Discounters	Netto and Plus	Penny	Lidl	Aldi
International activities	EDEKA decided to divest most of its international activities in Russia, Poland, the	REWE operates stores in 11 European countries (apart from Germany) as well as	Lidl is present in 20 European countries and generates the greatest share of	Aldi North and Aldi South have divided the markets

	EDEKA Group	REWE Group	Schwarz Group	Aldi Group
	Czech Republic and France. It still operates stores in Denmark and Austria, which are primarily 'Netto' discounter stores.	in Russia and the Ukraine.	its turnover in France. Kaufland is present in six Eastern European countries and is expanding.	they operate in; however, together Aldi (North and South) are present in most European countries and also operate in the USA, Australia and Switzerland

The above table purposefully introduces the profiles of *four* retailers - Edeka, Rewe, Aldi and the Schwarz Group¹³ - for the following reasons:

- a) These retailers directly compete with one another in their core business of food retail;
- b) They constitute the main actors in terms of market share, turnover and brand value;
- c) The empirical evidence reported in the following chapters draws on these retailers' use of industry standards, GTC and contracts in interaction with direct and indirect actors.

Edeka remains Germany's top food retailer measured by turnover, reaching €44.5 Billion, followed by the Rewe Group with €25.2 Billion, the Schwarz Group with €24 Billion and the Aldi Group with €20.1 Billion in 2013. Edeka and Rewe generated most of their turnover from Edeka and Rewe super – and hypermarkets, rather than its discounter-store operations. However, both retailers remain in the discounter market to deter customers from moving to Aldi or Lidl.

All four retailers managed to increase their turnover in the years 2011/2012 (Lebensmittelzeitung, 2013, Top 30 Lebensmittelhandel Deutschland) despite very low margins in food retail (Netztrends, 2014). This increase was generated primarily by the following factors: continuous growth in store numbers in Germany and internationally, increasing store floor-space, mergers and acquisitions (particularly with the bankruptcy of 'Plus' and 'Schlecker') as well as the retailers' enhanced growth *outside of* Germany. Despite Germany being a highly saturated market measured in store density, with Europe's highest

¹³ The reason for excluding the Metro Group is that: (a) it operates only 312 food stores in Germany (Metro Group, 2014) amounting to a market share of only 7% (Brandeins, 2013); and (b) it focuses on other markets than end-consumer food retailers. Metro manages a global presence of wholesale food stores, consumer electronics stores (Media/Saturn) and the department chain 'Galeria Kaufhof'. Because of this different focus, Metro does not compete to an equal degree with the other four German food retailers.

number of food retail square-metres per citizen, the retailers still increased store numbers within Germany and internationally: In Germany, the REWE group opened 122 and the Edeka group 114 new stores, followed by less ambitious growth by the Schwarz group, with 35 new stores and the Aldi Group with 68 new stores. However, the discounters Lidl and Aldi own at least four times the number of stores of Edeka and Rewe in the international markets. Edeka and Rewe have grown their store outlet numbers and market share through merger and acquisition activity over the last decade: Edeka acquired the AVA-AG (2002), the Spar-AG and Netto Discounters (both in 2005); whereas Rewe bought 245 'Extra' stores from the Metro Group in 2008. The Schwarz group purchased several 'Schleckerland' stores in 2010, which operate as 'Kaufland' today. However, the German competition authority caps further mergers and acquisitions, requiring all companies to engage in alternative growth strategies. The most notable alternatives pursued by retailers are internationalisation and backwards vertical-integration, which allow leveraging economies of scale. While Edeka and Rewe primarily generate revenue from its German operations, the Schwarz and Aldi Groups have internationalised more aggressively, with Lidl generating most of its revenue outside Germany. To further strengthen their position vis-à-vis manufacturers in the German market, Edeka, Rewe and Kaufland increasingly vertically integrate more profitable and safety sensitive food categories such as meat (Lebensmittelzeitung, 2013, Top 10 Fleischwerke des Handels).

The consolidation and internationalisation trends among retailers are mirrored in similar developments among manufacturers, wholesalers, brokers, farmer co-operatives and commodity traders (Bunte et al., 2011). The main driver for these trends is the need for suppliers to cope with retailers' increasing bargaining power. There is also fierce competition in the commodity trade, which is of concern to 70% of German buyers in the food industry (Statista, 2014, trends in the German food industry). The manufacturer landscape is characterised by businesses leveraging efficiency through international sourcing and distribution. The analysis of Germany's top-twenty manufacturers' key performance metrics indicates two important trends: 1) most manufacturers earn their highest turnover from markets outside Germany; 2) the top-twenty companies are either manufacturer-brand conglomerates such as Unilever, Nestle and Oetker, or food processing and trading companies dealing with large-scale operations in the sugar trade, dairy or meat processing. Concentration among the latter has recently triggered several investigations by the German Federal Competition Office (FCO) on the grounds of illegal price-fixing and territorial boundary agreements (WDR, February 2014).

One of the top-twenty manufacturers is Unilever. Unilever sells 400 brands in 190 countries and benchmarks all new product developments against the requirement to generate at least 50 million Euro in sales for each product. Unilever develops 600 new products annually, of which 90 are rolled out globally within 12 months (Bloomberg News, 2013). Investment in

consumer brand recognition helps such manufacturers in negotiating shelf-space for 'must stock' products, even with discounters. In fact, Aldi and Lidl are increasingly important retailers for brand manufacturers, who accept contracts demanding lower prices in exchange for high volume turnover and reach.

Parallel to recognised brand manufacturers, the German market is characterised by internationally operating actors manufacturing exclusively retailer-brand products. Retailers' internationalisation increased demand for retailer-brand products, which led to the rise of 'silent giants': companies manufacturing retailer-brands only and offering considerable cost savings from economies of scale and lean logistics. Illustrative of 'silent giants' is 'Tavola', a company who supplied German and other European retailers with high volumes of retailer-brand products containing undeclared (horse-)meat, including Edeka's label 'gut & günstig' or Rewe's 'Tavola' and Metro's 'Capri' in 2012 and 2013. Figure 4.2 illustrates Tavola's high-volume share in manufacturing six different retailer-brands:

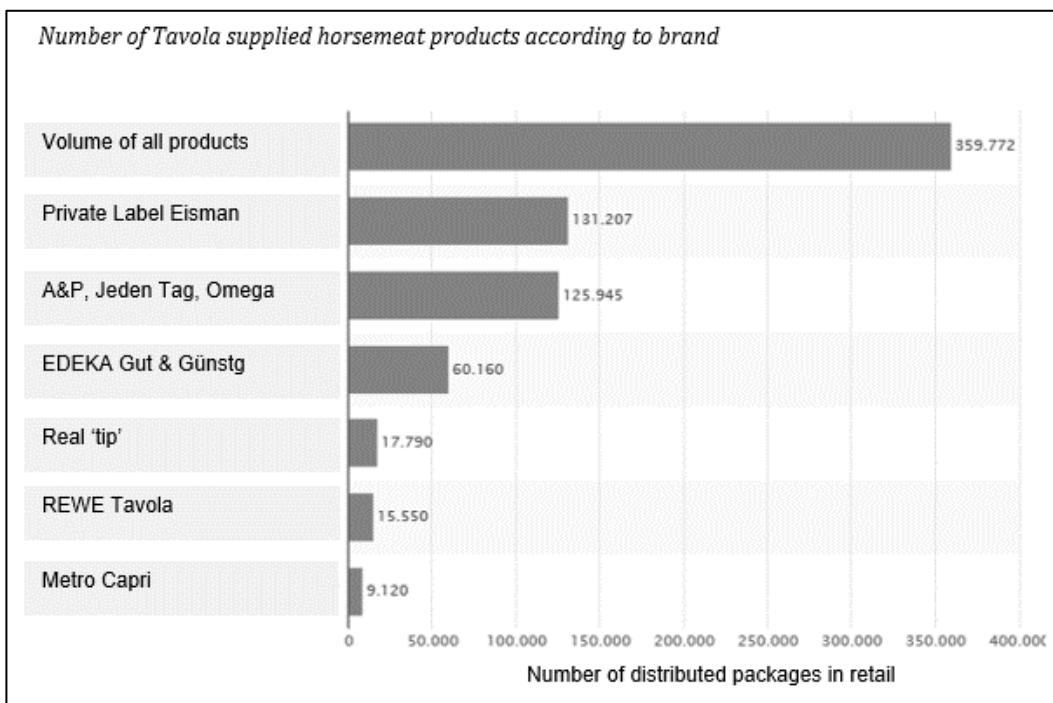


Figure 4.2. Tavola retailer-brand manufacturing. Statista, 2013, Tavola horsemeat supplies to Germany.

Tavola and Unilever are illustrative of the top manufacturers in Germany who set extreme benchmarks for smaller- and medium-sized manufacturers interacting with retailers. In fact, in 2013, the European Commission investigated food retailer-manufacturer trading practices to review the effectiveness of available legal mechanisms addressing power asymmetry in this sector. The investigation report suggests that absence of alternative buyers and high switching costs lead manufacturers to consent to even more unfavourable contract terms: 87% of manufacturers do not take any action over unfavourable terms, because 63% of

manufacturers fear revenge and 50% believe that no available measures would be effective (European Commission Report on Unfair Trading Practices, 2013, p.8). An analysis of European legal provisions regulating trading practices confirms that there are currently no effective provisions in place to address this situation.

The resulting power asymmetry in food retailer-manufacturer relationships materializes in many forms, ranging from retailers' demands for extra listing fees, excessive transfer of liabilities or arbitrary contract termination, to coercion, intimidation and even illegal practices. Each of these demands opens a range of possibilities, as evidenced in the variety of 'fees' retailers demand from manufacturers on a typical basis, including: per-unit fees for new products, 'pay-to-stay-fees', buy-back of unsold products, upfront lump sum payments for new products, free product discounts, promotional allowances, volume discounts and other non-specified 'fees' (OECD Global Forum, 2009). Among the most prevalent unfair practices in the industry identified in the European Commission report are:

- (1) Deliberately ambiguous contract terms;
- (2) Absence of written contracts;
- (3) Retroactive contract changes;
- (4) Unfair/excessive transfer of commercial risks;
- (5) Unfair use of information;
- (6) Unfair termination of contracts;
- (7) Copycatting (of product formulation and/or packaging);
- (8) Limited freedom in choosing third-party suppliers;
- (9) Territorial supply constraints and limitations to trade with other retailers.

Such practices break the 'Code of Good Commercial Practice' and are considered illegal. However, the Directive 2005/29/EC offers regulatory protection from unfair practices in business-to-consumer, not business-to-business interactions. With European legal provisions showing significant gaps in addressing unfair trading, most European member governments (excluding Germany) support the development of 'Codes of Conduct'. However, such codes remain voluntary, with governmental authorities holding no powers of enforcement. Consequently, compliance is reliant on business actors' voluntary consideration in contractual agreements.

CHAPTER 5

EMPIRICAL EVIDENCE: LOCI AND IMPACT OF RISK

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5.1 Introduction

This chapter describes the locus and impact of risk in German food retailer-manufacturer relationships. The *locus of risk* comprises the complexity of food supply and distribution relationships; variability in product quality, quantity, processes and consumer perceptions; and legal ambiguity across markets. Evidence of risk impact is reported by distinguishing between *damages to tangible and intangible resources*.

5.2 Loci of risk

5.2.1 Complexity of food supply and distribution relationships

'Complexity of food supply and distribution relationships' is a locus that emerges from the sophistication of food products and greater internationalisation of food supply, manufacturing and distribution processes. For instance, Nestlé, a global FMCG manufacturer, titled its internal "Investor Seminar" presentation held in June 2011: "*Managing the unexpected*". The presentation reports the manufacturer's view of "Zone CNN" (Figure 5.1), which refers to the "risks and uncertainties that could cause actual results to differ materially from those ... in forward looking statements":

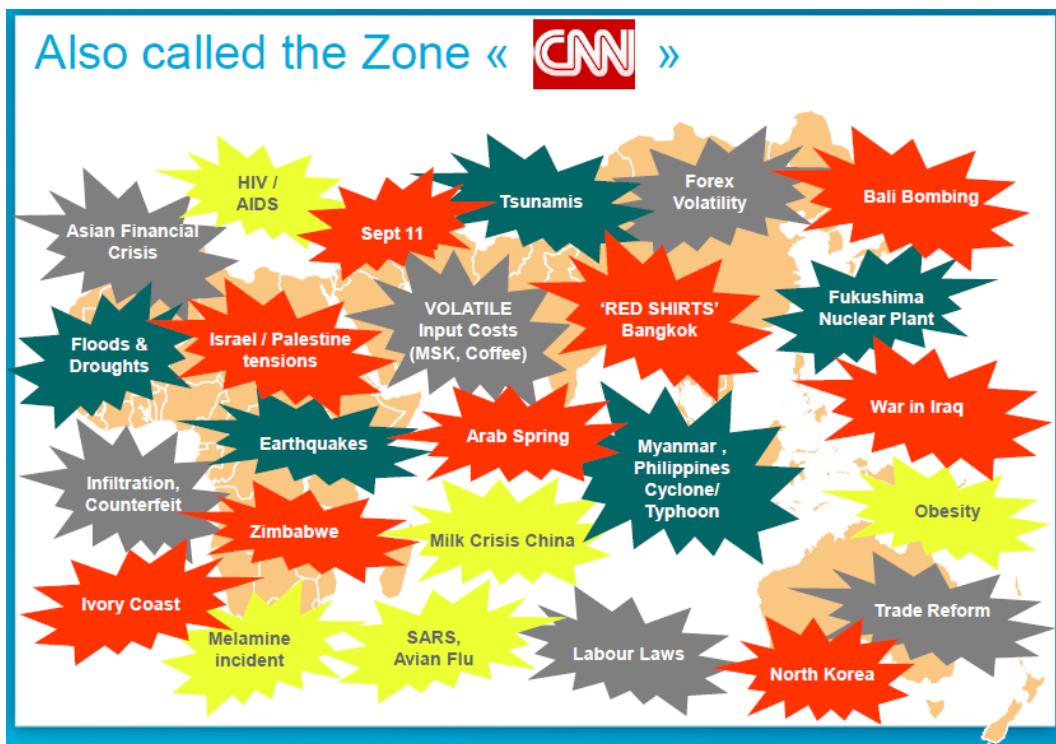


Figure 5.1. "Zone CNN". Nestlé' Investor Seminar, June 2011.

"Zone CNN" illustrates that relevant risks considered by the manufacturer:

- a) Span various issues, including product contamination, natural disasters, political events, legal changes, market risks, volatile raw material cost, and health risks;

- b) Occur not in isolation or sequentially, but simultaneously;
- c) Are not necessarily geographically contained, but may affect several markets;
- d) Concern complex issues that cannot be effectively addressed unilaterally.

Evidence from Unilever, another global FMCG manufacturer, confirms this observation, with the company broadening the term 'risk' in its annual report to include "risks *and uncertainties* [which] could cause actual results to vary from those described...or [which] could impact on our ability to meet our targets or be detrimental to our profitability and reputation" (2010, p. 33, emphasis added). A similar shift in understanding risk is evident in the change of visual materials used by a German risk consulting agency (RCA¹⁴) specialising in the food business. RCA used to rely on the 'risk matrix' tool for mapping relevant risks for *one company* (Figure 5.2) but now uses a multi-actor, dynamic visualization of risk (Figure 5.3):



Figure 5.2 has been removed due to Copyright restrictions.

Figure 5.2. RCA 'Risk Matrix', 2013.

¹⁴For confidentiality reasons, the consulting company is anonymised and referred to as RCA throughout.

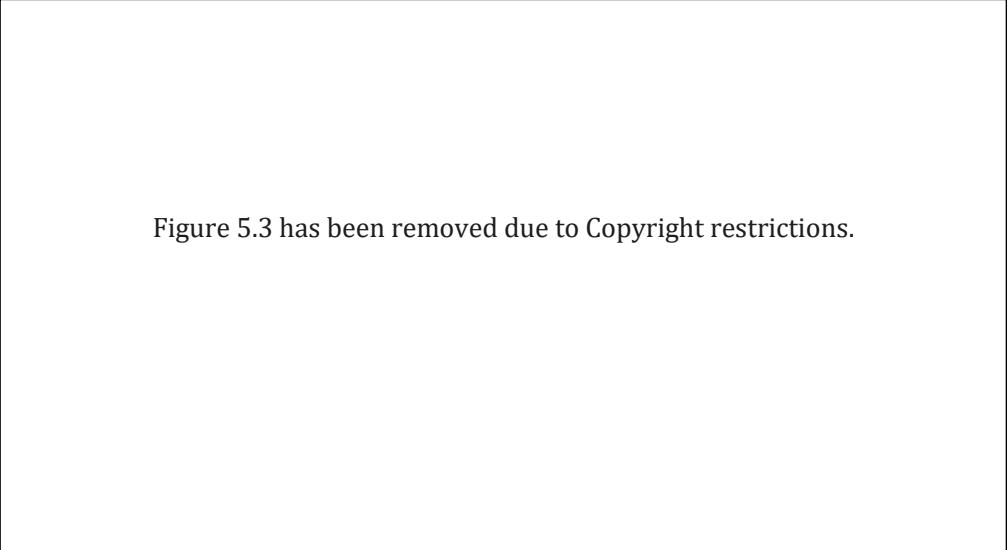


Figure 5.3 has been removed due to Copyright restrictions.

Figure 5.3. Risk in a multi-actor context. RCA, 2013.

Figure 5.3 demonstrates two shifts: first, a change from the single company-centred to a multi-actor perspective. Second, it does not 'rank' risk based on probabilities, but acknowledges the distribution of risk across the network. A junior RCA consultant referring to Figure 5.3 states that:

"This slide emphasizes the complexity of risk in the food business. Food is a sophisticated product and any incident in the early stages of production can generate major repercussions later. It also better shows that companies should trust less the prioritization of single risks" (ID 26).

Shifting focus to complexity in food supply relationships is echoed in McKinsey's working paper series on "Risk assessment for uncertain times", which emphasizes five principles:

"1. Consider 'risk cascades' rather than individual risks. 2. Think through the risks to your whole value chain. 3. Understand yours and others' likely responses. 4. Address the implications of risk, not just the risk map. 5. Be aware of the limitations of insight" (Pergler & Lamarre, January 2009, p.1).

The principles crystallize that risk may 'cascade', requiring companies to consider risks throughout 'the whole value chain' and anticipating one's own and *other actors' responses* and implications. The final principle reminds us of the limitation of human insight, which is echoed by a former marketing manager at an international FMCG supplier:

"I think that risk is an issue that comes about through the simultaneous co-occurrence of many different factors, which assail one like an avalanche. ...You have a changing role of media, interlocking of new international issues.... Today, you may order something from a factory you have never ever seen! There is a diversification of issues that is not easy to grasp or control. ... we are more dependent on a chain of different factors, such as environmental or transportation factors...The companies become 'parts' that must function in a larger system and we just assume that it is going to work out somehow, although we do not exactly understand how.

When somewhere issues occur, it is difficult to evaluate: Will it affect my company? Maybe? [...] Many businessmen do not have an accurate understanding of the complexity of their own value chains. A lot of outsourcing leads to transfer of responsibilities and risk, without really understanding what these risks are and how they can backfire" (ID 20).

The 'avalanche' metaphor highlights the perceived difficulty in identifying risk events. The embeddedness and interdependency of a company's activities in a wider 'system', and limited capacity to capture its complexity, is well illustrated in David Noble's (CEO of the Chartered Institute of Purchasing and Supply) statement to the Financial Times (October 23, 2012):

"Often it is some way down the supply chain that the problems occur...With Chinese suppliers, for example, there can often be subcontracting and subcontracting until the company at the top of the chain might not be certain where it ends."

Noble's observation is illustrated in the 'nuts for spices' case, which refers to the intentional contamination of spices with nutshells that affected food manufacturers and retailers across Europe, the United States, Canada and India, and became evident through consumer reports of allergic reactions. Tracing the origin of contamination became impossible due to the supply chain's complexity, as reported by Tom Bawden:

"The worldwide trails that transport the likes of cumin and paprika from the field to the fork is so labyrinthine it's actually extremely difficult to solve...The more intermediaries the spices pass through, the more opportunity there is for tampering ...Once harvested, the raw spices are shipped from farms all over the region to the regional market yard, where they are collected and auctioned in lots. They are then typically passed on to a processor, who will ... mix the fresh spices ... ready for export. From there they go to a shipper who takes them to an importer or distributor abroad, and possibly on to a manufacturer such as Santa Maria, where they are mixed ... into "meal kits" and sold on to supermarkets. It is also not unusual to export the spice to another country to be processed – for example sending spices grown in Asia for processing in Spain or Turkey – before exporting them again to their final market [...]" (The Independent, February 18, 2015).

This case illustrates the complexity of food supply relationships and the potential for 'risk migration' through multiple product-touch points across markets. In considering 'risk migration', retailer Gamma commissioned a risk analysis of beet and cane sugar (April 2011) that examined the local cultivation, sustainable soil use, destruction of natural ecological systems, potential for mixing with GMO harvests, water consumption and local working conditions. Although Gamma does not contract directly with sugar cane or beet growers, it conducted the risk analysis for three reasons: First, sugar is a key ingredient in many compound products, which may amplify risk migration to products containing sugar. Second, at the time of the risk analysis, the EU considered waiving the European sugar market regulation, which would enable free trade with non-European markets such as Brazil. Gamma

was weighing the cost advantages from importing 'cane sugar' against the social and environmental damages associated with the production (later referred to as 'process variability'). Third, Gamma aimed to define quality, social and environmental product and process standards for sugar sold under its "For the Planet" label.

Gamma's sugar risk analysis illustrates that the locus of risk may lie beyond the retailer's direct business interactions. This is echoed by a senior compliance manager at retailer Delta:

"The greatest challenge for us as a retailer is keeping up with the increasing complexity in food sourcing, trade and retail. This complexity comes from very high variability of suppliers...different ingredients and processes and the scale of operations. We have hundreds of people involved in food from farming, to logistics, to packaging, to warehousing, even on our shop floors. But it is impossible to prevent every risk. For example, in our company, we have started creating 'risk fields' – each field is complex! For example, we have 13 fields. Look at the first one: 'Sourcing and purchasing risk'. This includes varying raw material prices, supplier breakdown, natural disasters in the country or region we source from or epidemics like the SARS. Look at the second one: 'Product risk'. This can include unintentional or intentional product contamination, blackmailing, damage caused during transportation, etc. Then we have 'changes in consumer behaviour' – this includes the 'health trend', changes to the demographic development...and pricing. Then we have 'competitor behaviour': copy-calling, mergers and acquisitions. Then, that's one of my 'hot' topics: 'Effects of political action' such as naming and shaming, more regulations...The next one: 'Effects of public opinion'. This includes a whole lot of difficult issues, such as GMO, animal welfare, caged hens' eggs, and pesticide use. Then we have 'effects of negative media reports. 'Next one: Human resource risk, ... bribery and other unethical practices, unprofessional decision-making in purchasing or quality management. Then: 'Effect of governmental authority inspections', especially if it leads to product recall mandated by inspection authorities. Then we have 'changes to governmental regulations', like stricter inspections, more information sharing rights etc. And finally, that's my favourite: 'Others'. That is basically the category where anything can happen and where we could not even think of it yet" (ID 4).

This account illustrates the attempts at - and limitations of - systematizing 'risk fields', with each field remaining 'very complex'. Moreover, the field labelled 'others' depicts the inherent uncertainty involved in addressing risk where 'anything can happen and where we could not even think of it yet'. This section illustrates the need of retailers and manufacturers to understand:

- a) The complexity and scale of risk occurring from complex food supply relationships;
- b) The implications of the simultaneous occurrence of risk in several geographic locations;
- c) The implications of risk migration beyond the boundaries of single companies and markets.

5.2.2 Variability in product quality and quantity

Variability in product quality refers to measurable distortions in the *quality* and, potentially, *safety* of food products, while variability in product quantity refers to measurable distortions between demanded and supplied product volumes. Variability in product quality emerges from a variety of incidents, including variable sourcing, harvesting, processing and transport conditions or use of variable raw materials as well as unintentional and intentional contamination. Unintentional, or accidental contamination may occur through interactions between foods and packaging, excess residue levels from pesticide, fertilizer or antibiotics use or unidentified substances. Intentional contamination typically involves fraud, mislabelling and alteration. Variability in product quality is a major concern because of its implications for food *safety*, scale and reach, since "*[t]oday's food supply knows no borders, but the same is true of contamination*" (Yves Rey, Danone Corporate Quality General Manager, GFSI 2012).

Peter Embarek, scientist at the International Food Safety Authorities Network (INFOSAN) in Switzerland emphasizes that

"[w]e live in an increasingly globalized and interconnected world, where food products move rapidly across borders. Contaminated raw material ...can end up creating very large outbreaks of food-borne disease across several countries, causing expensive recalls on a large scale..." (GFSI, 2012).

German food retailers and manufacturers are particularly concerned with variable product quality in Chinese imports:

"Product quality issues can originate from anywhere in the value chain. China has become the world's largest exporter of honey, fruits, processed vegetables and even 'organic foods'. China is the largest producer of animal feed vitamins, yet 58% of RAPEX-notifications concern Chinese imports. What is even more frightening: In 43% of the cases we do not know who the manufacturer is! Such limited traceability is caused by limited resources of Chinese public authorities and European ports. Also, companies often supply incomplete or inaccurate information with the shipments" (ID 28).

Apart from Chinese imports, German food retailers and manufacturers are concerned with the variability of product quality across many product categories, each requiring specific laboratory tests. Table 5.1 illustrates this problem:

Table 5.1. Seafood product safety notifications. World Bank Report, 2005, p.44.

Country of origin	Product (fish and shrimp only)	Source of contamination	Danger
Algeria	Sardines in oil (1)	Polycyclic aromatic hydrocarbons	Chemical
Angola	Tuna (1)	Histamine	Chemical
Argentina	Shrimp (2) (<i>Hymenopenaeas mulleri</i>)	Sulphur dioxide	Chemical
"Asia"	Shrimp (Black tiger) (1)	Nitrofurans, Furazolidone, AOZ	Chemical
Bangladesh	Shrimp (Black tiger), Prawns (3) Shrimp freshwater (king prawn) (6)	Vibro Cholera/ parahaemolyticus Nitrofurans	Microbiological Chemical
Benin	Prawn, frozen (1)	Aerobic mesophiles Enterobacteriaceae	Microbiological
Brazil	Monkfish tails (<i>Lophius piscatorius</i>) (1) Fish (1)	Aerobic mesophiles	Microbiological
Chile	Mussels (<i>Mytilius chilensis</i>) (3)	Coliforms, <i>Escherichia coli</i> , Bacterial inhibitor Aerobic mesophiles Enterobacteriaceae	Microbiological
China	Shrimp (33) Shrimp (1) Shrimp (1) Prawn and crab (1) Prawns (1) Prawns (1) Other fish products (17)	Chloramphenicol Aerobic mesophiles Vibro parahaemolyticus Cadmium Incorrect labeling Fraud Vibro cholera/parahaemolyticus/ Vulnificus, <i>Salmonella</i> , nitrofuran, chloramphenicol, veterinary drug residual	Chemical Microbiological Microbiological Chemical Labeling Not determined Multiple
Cote d'Ivoire	Tuna (1) Fish - smoked (1)	Histamine Moulds	Chemical Microbiological
Ecuador	Shrimp (<i>penaeus Vannamei</i>) (2) Shrimp (2) Shrimp (1) Tuna (2)	Sulphites Vibrio parahaemolyticus Nitrofuran <i>Staphylococcus aureus</i>	Chemical Microbiological Chemical Microbiological
Gambia	Fish maws - dried (1)	Insufficient labeling, parasites Insects	Labeling, Parasites

The excerpt summarizes notifications registered for the seafood category for twelve countries. The scale, variety and mutation of contamination requires constant adaptation of laboratory testing methods:

"what we are most concerned with currently are food contaminants. ... We find ever new traces of new substances that we did not even expect to find, because previously it was impossible to detect them we find fractions of new substances and it is difficult to say what the impact of such traces may be" (ID 2).

A former quality manager at a poultry meat manufacturer confirms this observation, stating that

"We get increasingly those kinds of letters from retailers, where they tell us to 'guarantee that this product is free from...' basically any kind of contaminant. That's something you cannot guarantee as a food business today. There will always be traces of something, because the analytics become better every day" (ID 14).

While variability in product quality is considerably promoted through the combination of ingredients from multiple markets and increasingly better analytics, the *Escherichia-coli* bacteria (E.-coli) outbreak and dioxin contamination in Germany in 2011 demonstrate the

challenges in tracing product quality *even within the domestic market*. In case of the E.-coli outbreak, Bernhard Kühnle, General Director of the German Federal Ministry of Food, Agriculture and Consumer Protection, stated that

"Germany's 2011 E-coli outbreak was the largest of its kind since the Second World War. There were 3 842 [human infection] cases. One of the biggest challenges ... was navigating the country's 16 different authorities and the bureaucracy in dealing with them" (GFSI Conference, 2012).

In fact, while German food inspection authorities and, as a result, the German government believed that vegetables imported from Spain caused the E-coli outbreak, further inspections had shown that it was a company from Lower-Saxony, Germany, who distributed contaminated sprouts. Similarly, in the case of dioxin-contaminated eggs and meats in Germany in 2011, one ingredient used in animal feed product contamination impacted human health:

"One of the greatest challenges with foods is that if one ingredient is of bad quality, all products at later stages are at risk. Take the dioxin contamination of animal feed in 2011 [in Germany]: There was one company called PetroTec located in Emden. They produced biodiesel and as part of this, a waste product of mixed fatty acids. These mixed fatty acids were bought by another company, called Oil-vet located in Rotterdam. Oil-vet bought and sold this waste product to another German company located in Uetersen, who produced fats for animal feed. This company again sold the fats for animal feed to another German company in Bösel. This last company was involved in storing, mixing and distributing fats to about 25 mixed-feed producers. From there, it multiplied: The 25 mixed-feed producers sold it to approximately 5 000 farmers, who fed it to their stock. These animals were then sold for meat production to approximately 50 slaughter houses and packaging companies. The final production was distributed to approximately 25 000 retailers. One faulty ingredient can migrate throughout the supply chain...even in 2011" (ID 5).

The dioxin case demonstrates how the chemical mutation and re-combination of ingredients causes variability in product quality that lies beyond the immediate control of food manufacturers and retailers (ID 14).

5.2.3 Variability in processes

Process variability refers to *differences in the methods and conditions in food production*, including growing, harvesting, processing, manufacturing and distribution processes. Process variability is not necessarily relevant to food retailers and manufacturers because of legal requirements but increasingly because of German consumer concerns:

"...food safety is mostly regulated by law ... But there is nothing like that for processes for managing plantations, harvesting, conditions for relocating indigenous tribes.... That is well beyond the German borders, but something that food businesses are concerned with [...] that is an issue you have to solve through B2B regulations" (ID 23).

Concern for process variability is reinforced in the German market by increased viewership of TV documentaries on public and private channels¹⁵, which focus on:

- a) *Specific companies*, such as poultry manufacturer Wiesenhof (ARD-documentary 'System Wiesenhof', 2011; ZDF-documentary 'Hähnchen und Putenschlachthöfe', 2014);
- b) *Recent food fraud incidents* such as the horsemeat incident or the EHEC outbreak (Arte documentary 'Wege des Fleisches', 2015; NDR-documentary 'EHEC Skandal im Supermarkt', 2011; ZDF-documentary 'Ein Jahr nach dem EHEC Skandal', 2012);
- c) *or more general issues* such as food waste, industrial meat production and animal welfare, working standards and sustainability (Arte-documentary 'Nie wieder Fleisch?' 2012; collective documentary by ARD/SWR/3sat on 'Massentierhaltung – Schweinefleisch für den Müllcontainer?', 2015; WDR-documentary 'Essen im Eimer – Die große Lebensmittelverschwendung', 2013; Arte-documentary 'Lebensmittelverschwendung', 2015).

Following the documentary "System Wiesenhof", retailer Delta terminated all supply contracts with meat manufacturer Wiesenhof. A senior risk and crisis consultant observed that:

"The combination of public media and NGOs is a difficult stakeholder to deal with as a food business. They have what we call 'a leasehold on credibility' [...] food businesses must think about: For which actors or parts of the food value chain do I take responsibility? So, if I [as a food business] say 'I don't support child labour', then I have to take full liability that no one in the value chain that I am part of supports child labour in any way" (ID 23).

Yet, the challenge of addressing process variability is that it often emerges beyond the German market:

"We have no food business that can afford limiting its efforts in dealing with risk to its 'four walls'. We always need to look at the whole value network, to include everyone who may be involved in previous stages of production, who provide ingredients, ingredients of ingredients, packaging of ingredients of ingredients etc. Particularly with sustainability risks you cannot possibly address them as a one-man action. Apart from food safety, sustainability and social risks are the main areas of concern. ... An employee working on my confectionary, may easily work on the Ivory Coast. That is the understanding consumers have and which businesses must transform in their business interactions. ... the other hot-spot process risks are consumer protection, animal welfare, environmental impact...." (ID 23).

¹⁵ The number of documentaries produced on food businesses, and specifically on the subject of animal welfare, worker welfare conditions and sustainability concerns, precludes an exhaustive report. Therefore, the list includes a small sample of recent documentaries produced by German 'public TV channels', which are available to viewers without cable subscription and which receive the highest viewer share.

5.2.4 Variability in consumer perception

The German food retail market is characterised by critical consumers who apply the highest scrutiny to quality and price, while spending the least income share on food compared to other European markets (ID 27).

Despite maintaining highest quality foods at the most competitive prices in Europe, German food retailers and manufacturers consistently receive low credibility and confidence ratings from consumers (GFSI 2011, 2012): Whereas other European consumers show 66% confidence in food retailers and manufacturers, it is only 33% in Germany (McGarth, GFSI, 2011). In contrast, 61% of German consumers trust 'Stiftung Warentest' and 'Ökotest' (Meyer-Radtke, December 2013). Consumer perceptions are a vital locus of risk for food businesses, because consumers are:

"going to impose greater control each time trust is violated. Loss of social license is not limited to the one bad actor, but affects the entire industry"
(Arnot, CEO Center for food integrity, USA, GFSI, 2012).

German consumers subject food products to considerable scrutiny, a phenomenon that a senior representative of the German Association for Food Law and Science (BLL) described as the "German Angst" (ID 12). To address consumers' scrutiny regarding pesticide use, a German retailer tried to impose:

"stricter-than-strict requirements for pesticide use in ... fruit and vegetables. However, the retailer had to refrain, because using less than four different chemical agents is not effective in combating food pathogens.... If the retailer would continue requiring his suppliers to use less, he would effectively force suppliers to supply unsafe food" (ID 2).

This illustrates that the locus of risk emerging from variable consumer perceptions is tightly coupled with other loci of risk, including product quality and legal requirements, which are examined next.

5.2.5 Legal ambiguity

Legal ambiguity emerges when retailers and manufacturers interact across several jurisdictions with *partly known and unknown* regulations that may overlap, contradict each other or leave areas of concern to food businesses unaddressed, such as provisions regulating intellectual property, product safety, conflict resolution and compensation for damages. An importer to retailer Alpha refers to this as a 'jungle of regulations':

"in our business, everyone stands with one foot in prison who loses perspective in the jungle of regulations, of ever new laws, EU- norms, retailer product specifications and certification bodies" (ID 21).

Most German food retailers and manufacturers purchase ingredients from Asian markets, primarily from China. However,

"we cannot speak of a unified 'Asian legal system'. In most cases, the colonial past of each country has significant implications on each country's legal system. For example, British trade and commercial law significantly influences today's trade and commercial law in India, Malaysia and Singapore. On the other hand, Dutch law informs the Indonesian law. [...]

The main crux underpinning this complexity is not only the patchwork like pattern of different legal regulations, but the difference between what the law says in 'theory' ... and what laws have actual priority in practice. Hence, you cannot really say in advance what the provisions will be and you cannot rely on them, ...This creates ambiguity over which regulations take precedent....

There are of course differences regarding the structure of the legal system in each country: In China, you have a four-layered court system. [...] In 1990, only 10% of judges and prosecutors had a law or any academic degree. On top, ...the independence of the legal powers as we know it from Germany is not guaranteed. Also, in Germany we have the civil law, which is very detailed and 'stable'. But the Chinese foreign trade law is based on the general principles of the U.N. trade law, of which the Chinese only mention the 'guiding principles'! [...]

Given these complexities, most businesses rely heavily on arbitration. In China, for example, the qualification of arbitrators is much higher than of governmental judges. [...] There are other complexities in India, ...India has very detailed codification. The problems are extremely long proceedings. It can easily take several years and again, arbitration is the preferred choice. [...]” (Thümmel & Kilgus).

Apart from litigation concerns, legal ambiguity emerges from variable requirements for contract validity:

"The objective of contracts is to create a scaffolding for future issues ... In Germany, we rely on the internationally recognized principle of free choice of jurisdiction. ...This means that the buyer ... is free to agree with the international supplier on applying German law or the U.N. law on trade and sales of goods. In practice, this free choice is more limited [...] and you must consider the procedures making a contract 'valid'. For example, in India, a contract is valid only if the stamp duty was paid. It is a cheap thing, but you must do it or the contract is void ..." (Kilgus).

In addition to legal ambiguity in existent regulations, German retailers and manufacturers are concerned with the interference of consumer groups and NGOs in the regulative process:

"What is probably more significant for the industry long-term is not just regulation [...] but the involvement of non-specialists, non-experts, in all stages of the process" (ID 36).

The German market witnesses increased professionalisation of NGOs such as 'Foodwatch' and public-private consumer-protection groups 'Stiftung Warentest' and 'Ökotest', who influence

policy formation through media campaigns and litigation. A food NGO campaign manager stated that:

[o]ur objective is to create media-effective campaigns that will bring about regulatory change. For this, the bigger names in the industry are better, because they have a greater market share, they want to protect their brands and reputation and therefore, they react much quicker. Also, we find better co-operation from retailers. So, if we find any issues with products, labelling or packaging or animal welfare, feed production etc. then the retailers are more responsive in supporting changes. The big companies know the game...They are afraid of harming their brands and reputation and agree quicker to make changes. But they also have huge product volumes, production capacities and often global campaigns. ... the next big issue for us is the debate over obesity and health impact of certain foods. ...they will need changes to their recipes and advertising" (ID 24).

Lawsuits between Foodwatch and Unilever, Danone or the German confectionery manufacturer "Ritter Sport" are representative examples. In the case of "Ritter Sport", Foodwatch claimed the use of synthetic instead of natural aromas stated on the product. While the use of synthetic aromas does not pose a health hazard or infringe legislation, "Stiftung Warentest" classified the product as "deceiving" and awarded it a low product score¹⁶. Ritter Sport appealed the score, produced a guarantee certificate from its aroma supplier "Symrise" stating that the ingredient was in fact *non-synthetic*, and won their case. This evidence illustrates that legal ambiguity captures not merely the variability among multiple, applicable legal regulations, but also the discrepancy between food companies' 'de-jure' and 'de-facto' responsibilities. The compliance manager at retailer Delta draws attention to this discrepancy by referring to the 'perceived chain responsibility':

"De-jure, the food industry is not subject to chain responsibility anymore. But the public's perception is very different. So, de-facto, as a retailer, we still operate as if we are chain-responsible for everything that happens before we get the product on our shelf, from feed quality to animal welfare, to social standards... and soil erosion in Brazil" (ID 4).

This statement illustrates that retailers and manufacturers must consider 'de-facto' obligations in addition to relevant de-jure obligations arising from differences in jurisdictions across markets.

5.3 Risk impact

This section describes risk *impact* on German food retailers' and manufacturers' tangible and intangible resources. Distinguishing between damages to tangible and intangible resources serves analytical purposes, as in real life these are interlinked and may reinforce each other.

¹⁶ A low product score awarded by "Stiftung Warentest" or "Ökotest" is classified as a reason in retailer-manufacturer contracts for removing a product from the shelves at the manufacturer's expense and respective compensatory payments for loss of sales.

Considering the low margins in the German food market, the primary concern for retailers and manufacturers are *costs*, which typically comprise:

- a) The *value of the recalled products* (which may include unaffected products of the same product category or brand);
- b) *Costs for marketing communication*, such as public recall notifications in (inter-) national media, consumer-care services;
- c) *Logistics and waste disposal costs for the recalled product*, including reverse logistics, warehousing, recycling;
- d) *Retailer administration fees, costs for laboratory testing, cost for production halt and over-capacity following the incident*;
- e) *Potential product redesign and packaging*, including advertising costs, potential legal fines;
- f) *Potential (temporary) halt of purchasing orders* from retailer(s).

These costs typically arise in combination following a public product recall and may increase if *safe products from the same brand or product category* are affected and removed from retailer shelves, too:

"[Retailer Delta] requires some of the highest compensations from manufacturers for product recalls. The sums they claim are unbelievable! It is not unusual for manufacturers to be asked to remove everything they delivered to Delta even if only one product is affected" (ID 21).

Consequently, if *one product batch* provided by *one manufacturer* is affected, it may generate a wider impact: *All batches of that product and unrelated products* from the same manufacturer are likely to be removed. Additionally, products from the same product category but different manufacturers may be removed or experience decrease in sales following the incident:

"If you are a retailer-brand manufacturer, you are usually one among let's say seven other manufacturers who produce for the same retailer...so you only produce a share of that product. If one manufacturer recalls its production, the other six have not necessarily anything to do with it, but their products will be taken from the shelves too, at each manufacturer's expense!" (ID 12).

Apart from immediate product recall costs, retailers and manufacturers may incur short- and long-term costs to comply with additional regulations for product test requirements:

"Following the BSE incidents in the late 1990s, not only sales for beef fell dramatically, but German meat manufacturers had to invest 400 Million Euros in 2001-2005 to conduct 13 million laboratory tests. The positive results constitute 0.0015% of all tests" (ID 27).

Similarly, the horsemeat incident generated significant short- and long-term costs: While retailer Beta requires additional laboratory DNA-inspections, retailer Gamma requires suppliers to reconfigure meat supply chains to provide 100% German sourced beef.

Published reports on food product recalls typically consider *direct* costs involved in *public* food recalls, but the actual cost is higher, if 'silent product withdrawals' are considered:

"A major German retailer silently removes 5-10 products per day. This can be triggered by multiple factors: Maybe the allergen-declaration on the product was insufficient, maybe the product had a deficient barcode ..." (ID 27).

In addition to direct costs incurred in product recalls, indirect costs emerge from the need to reconfigure product recipes, packaging, labelling and respective promotional activities. While damages to financial performance are the primary risk impact, retailers and manufacturers are equally concerned with consequent impacts:

"While out-of-pocket losses are considerable, food safety breaches and recalls cost everyone in the food chain dearly. There are other irreparable damages – the decline or loss of brand image and the loss of consumer trust" (IFS White Paper, IFS Safety Certification, 2012, p.2).

Although sales in product categories affected by an incident tend to recover within 8-10 weeks (ID 23), decline in consumer confidence creates longer-term damage:

"Each time there is a food safety incident, besides the human tragedy, there is a loss of confidence in our food supply" (Frank Yiannas, VP Food Safety Wal Mart, GFSI 2012).

While recall insurances and compensatory payments mitigate damages to tangible resources, damages to *intangible resources* such as brand image (ID 35) and reputation (ID 36) are more difficult to address:

"...brands and their reputation are viewed as the most valued assets, which face new and more complex risks, in the market place, but also in the wider social sphere, in the political environment and mediaWe must be alert to the political, ethical, societal and even ecological exposure of brands. [...] The food industry invests vast sums to keep their brands in the limelight. The downside of high public awareness is the ever-present, and increasing, risk of disproportional reaction to any negative incident. And these incidents happen increasingly beyond a company's control" (ID 36).

Similarly, Rick Cudworth, lead partner for resilience services at Deloitte, stated in the Financial Times (Felsted, 2012):

"You can insure for many of the costs ...but you can't insure for the reputational damage ...which may have been caused by a failure elsewhere...and that part is very difficult to deal with.' He urges companies to take a more holistic view of their chains. This goes beyond just insurance, to understanding the network, and not just a company's direct suppliers, but where they source from".

A former employee at a major German confectionery manufacturer echoes this view by highlighting that

“...damages to reputation and brands are particularly difficult. This is the greatest ‘sword of threat’ for us, because it affects our future value – it can decrease sales, it can destroy our business relationships with retailers and suppliers, it can damage the trust of our end-consumers. Damages to our reputation are worse than compensatory payments. ...and no amount of insurance can get you out of that and ‘buy’ you credibility back. We are also listed on the stock-market! Once the stock value falls, it may be very uncertain when it will recover, and above all, if it will recover!” (ID 29).

Damages to companies’ intangible resources may migrate beyond the boundaries of the company responsible for the incident, because of increased outsourcing in the food market. The potential for risk impact migration is amplified by consumers’ limited understanding of the complexity of food markets and the retailers’ and manufacturers’ tendency to ‘contract out’ liabilities:

“Particularly retailers are held directly responsible by consumers for the safety of food. However, retailers pass this responsibility on to their importers and processors When major food safety issues arise, both retailers and importers will be affected” (World Bank Report, 2005, p.7).

Additionally, retailers and manufacturers fear damages to operational freedom emerging from more restrictive regulations following food safety incidents:

“The problem with many food incidents is that they trigger political actionism. Through the German Association for Food Law and Science, we communicated to Ilse Aigner that her policy conflicts with data protection laws. ... our legal freedom and maintenance of current regulations is a key resource in our business” (ID 12).

Consequently, companies aim at *protecting resources* from risk impact and efforts to dealing with risk have

“...only one objective: Protection of consumer health and safety, protection of company reputation, protection of the brand” (ID 14).

The empirical evidence illustrates the interdependency and migratory potential of risk impact on both, tangible and intangible resources. Damages to company or brand reputation may translate into damages to the company’s financial performance, including sales, continuity and terms of business relationships and stock-market performance.

5.4 Conclusion

This chapter has examined the locus and impact of risk in German food retailer-manufacturer networks. Empirical evidence demonstrates that relevant risk loci may emerge beyond the immediate environment of German food retailers and manufacturers and migrate through direct and indirect business relationships. To reflect these dynamics, the loci of risk are not labelled in static terms (such as ‘product quality’ or ‘legal regulations’) but identified with *variability* and *ambiguity*. Risk impact is evidenced in damages to tangible and intangible

resources. Similar to the locus of risk, impact can migrate. These observations highlight that risk is rarely contained to a contained event occurring in isolation. Instead, risk may migrate across geographical boundaries through direct and indirect interactions and pose complexity that precludes any one company from dealing with it unilaterally. Building on this evidence, the following chapters, Six to Eight, chart the use of three institutional initiatives that food retailers and manufacturers use for dealing with risk: the international featured standard, General Terms and Conditions and framework contracts.

CHAPTER 6

DEALING WITH RISK: THE USE OF THE INTERNATIONAL FEATURED STANDARD

CHAPTER 6. DEALING WITH RISK: THE USE OF THE INTERNATIONAL FEATURED STANDARD

6.1 Introduction

This chapter reports how retailers and manufacturers use the 'International Featured Standard' (IFS) for dealing with risk in direct and indirect relationships. Formerly known as the 'International Food Standard', the IFS is the first comprehensive food safety standard launched by a group of German food retailers in 2002. IFS is referred to as a collective response to address the risks emerging from "ever-rising demands of consumers, the increasing liabilities of retailers, wholesalers and food services, the increasing legal requirements and the globalisation of product supply" (IFS Food 6, 2014, p.11). Drawing on progressive versions of original IFS documents, in-depth interviews with IFS auditors, members of the sanctioning committee and companies using the IFS, this chapter charts the origins, structure, content and changes to the IFS.

6.2 Origin of the IFS

The IFS is the outcome of collective effort by German food retailers, who aimed to address recurring food safety hazards that affected the industry in the 1990s. Additionally, changes to the EU and German food laws in the early 2000s resulted in German food businesses facing ongoing legal ambiguity and the threat of increased regulatory restrictions. To address these issues, German food retailers initiated the development of the IFS. By 2002, three factors particularly contributed to launching the IFS:

- a) Articles 13, 17 and 18 of the EU Reg.178/2002 introduced 'due diligence', 'extended traceability requirements' and encouraged the development of industry standards as a way for businesses to verify compliance with food safety requirements. Moreover, the re-activation of the RASFF and exposure to potential company 'naming and shaming' motivated retailers and manufacturers to invest in preventive measures.
- b) EU and German governmental food inspection authorities were significantly understaffed and geographically bound, preventing effective food safety monitoring and de-facto transferring this responsibility to food businesses.
- c) German food retailers' and manufacturers' own food safety provisions required significant revisions to meet the demands from increasingly complex and dispersed food supply and distribution activities. Previous reliance on in-house second-party auditing of business partners became disproportionately time-intensive for the company's quality management departments. Additionally, the international distribution of manufacturers and suppliers, alongside specialist knowledge required for auditing various food businesses, rendered exclusive reliance on second-party audits impossible.

IFS became the first pan-European¹⁷ collective private food safety standard:

- a) Enhancing the effectiveness and efficiency of food safety provisions in international supply and distribution;
- b) Limiting retailers' and manufacturers' legal liability;
- c) Pre-empting future regulatory restrictions caused by recurring food safety incidents; and
- d) Enhancing the credibility and legitimacy of auditing provisions across the food industry.

6.3 Business actors

"IFS Food" was launched in 2002 by German food retailers Metro, REWE, EDEKA, Lidl/Kaufland, Aldi and Tengelman, who currently hold a combined market share of over 75%. However, the composition of business actors involved in 'IFS Food' has changed over the past thirteen years: Table 6.1 summarizes this development and highlights changes to 'IFS Food'. Table 6.1 also considers the development of complementary IFS for logistics, packaging and brokering.

Table 6.1. IFS business actors

Date	Business Actors
2002 → <i>IFS Food Initiation</i>	- Informal meeting of German retailers, who are members of the "Trade association for a free market" (Handelsvereinigung für Marktwirtschaft, HfM) including representatives of REWE, EDEKA, METRO, Tengelman, LIDL/Kaufland, Tegut and Globus.
2003 → <i>Official registration of IFS Food with the HDE</i> → <i>IFS Food 3 launch</i>	- Official registration of the IFS with the German Retail Federation (Handelsverband Deutschland, HDE) and transfer of IFS management to the "HDE Trade Service GmbH". - Business actors comprise German retailers, a few manufacturers and certification and accreditation bodies
2004 → <i>IFS Food 4 launch</i>	- The French Retail Federation (Fédération des Entreprises du Commerce et de la Distribution, FCD) joins the German IFS Group to co-develop IFS Food 4.
2005/2006 → <i>IFS Food 5 launch</i> → <i>IFS Logistics launch</i>	- The German and French retail federations are joined by a group of Italian, Swiss and Austrian retailers (who are also members of the Italian retail federation 'Federdistribuzione') to develop IFS Food 5.

¹⁷The IFS competes with multiple vertical and horizontal standards in the food industry. Compared to other standards, IFS is the only one demanded by all German, and increasingly, all European retailers, and is therefore considered as of particular importance in this thesis.

Date	Business Actors
	<ul style="list-style-type: none"> - IFS Logistics is launched, counting major logistics providers and associations as members in addition to the core group of food retailers
2009 <ul style="list-style-type: none"> → <i>IFS Household and Personal Care Products (IFS HPC) launch</i> → <i>IFS Broker launch</i> 	<ul style="list-style-type: none"> - The launch of the IFS for the production of household and personal care products has brought new members, including Belgian, French and German household and personal care products associations (i.e., the European Cosmetics Association; the German Cosmetic, Toiletry, Perfumery and Detergent Association). - IFS Broker launch brought in major purchasing organizations such as the 'European Marketing Distribution' and 'US Foods'.
2010 <ul style="list-style-type: none"> → <i>IFS Cash & Carry Wholesale launch</i> 	IFS Cash and Carry launch is managed by the same IFS members as IFS Food 6.
2011 <ul style="list-style-type: none"> → <i>IFS Food6 launch</i> → <i>Version 6 updated in April 2014 following horsemeat contamination</i> 	The IFS Food 6 was developed by the IFS North America working group and retailers from Spain, Asia and South America, in addition to previous IFS Food members.
2012 <ul style="list-style-type: none"> → <i>IFS PACsecure launch</i> 	The German IFS GmbH purchased the Canadian Packaging Standard 'PACsecure' and developed it into the IFS-PACsecure. This move brought in new members, including the Canadian Packaging Association and 84 major manufacturers and relevant industry associations. Among them are Coca Cola, Kraft Foods, Pamalat, Nestle, Maple Leaf Consumer Goods, General Mills and Tetra Pak.
2013 <ul style="list-style-type: none"> → <i>IFS Food Store launch</i> 	The German IFS GmbH purchased the 'French Food Store Standard' and developed it into the IFS-Food Store. Members of the IFS Food Store have identical status to IFS Food.
2014 <ul style="list-style-type: none"> → <i>IFS Food Global launch</i> 	IFS Food Global is managed by the same members as IFS Broker.

While official IFS publications started with the transfer of the standard to the HDE Trade Service GmbH in 2003¹⁸, archival and interview evidence suggests that the IFS was previously negotiated in a series of private meetings between representatives of all German food

¹⁸ It is worth noting that the HDE Trade Service GmbH is registered at the same address in Berlin as the German Federation for Retail Trade (HDE), the IFS GmbH and the German Federation of Retail Trade (BVLH). Immediate geographical proximity further supports the evidence that the IFS was primarily the outcome of German retailers who are members of *all* mentioned institutions.

retailers, known as the 'Kronberg circle', who manage the 'trade association for a free market' (Handelsvereinigung für Marktwirtschaft, HfM). Today, this group of German food retailers features across all IFS schemes. Considering the relevance of IFS Food, Figure 6.1 depicts the retailers and other actors involved in IFS Food 6:

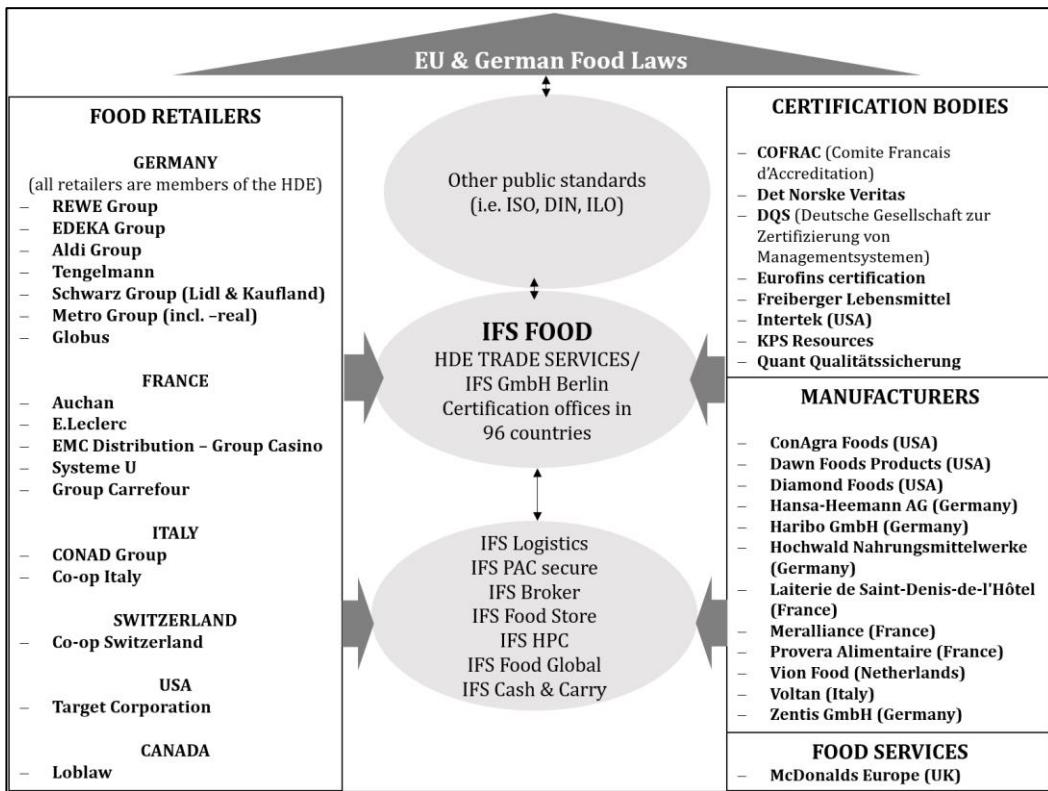


Figure 6.1. IFS Food 6 members.

Figure 6.1 illustrates German retailers' efforts to expand membership beyond the German and European borders by including major retailers from France, Italy, Switzerland, the USA and Canada, who in turn request compliance with the IFS from their respective manufacturers and suppliers. By 2012, IFS Food was translated into 20 languages, expanded into 96 countries and shows an annual increase in IFS audits by 9% (IFS News, IFS Food 6, 2011).

Additionally, IFS Food counts major certification bodies, manufacturers and McDonalds among its members. Figure 6.1 highlights that IFS Food does *not exist in isolation* from other IFS schemes, other public food safety standards (such as the ISO 22000¹⁹) or the European

¹⁹ Despite parallels between the IFS and ISO 22000, there are significant differences: (1) ISO 22000 addresses food safety, while the IFS also addresses food quality and legal requirements of food manufacturing, packaging, transportation. None of the ISO schemes address any of the following areas that are covered by the IFS: quality management, including compliance with contract specifications; product development and quality; packaging and quantity checks; complaints management from customers, consumers and public authorities; GMO; and subsidiary inspections. Moreover, ISO standards do not specify measurements or target levels to evaluate the degree to which companies comply with ISO standards or not. The ISO standard does not provide standard management tools (such as the IFS Integrity Program or IFS audit-portal database) to monitor audit quality and does not provide standardized audit checklists or report templates. This limitation allows each CB to design their own ISO-audit checklists. Because ISO standards are

and German legislations.

Instead, there is reciprocal interaction between 'IFS Food' and the EU and German legislation: First, the IFS emerged as a response to the EU regulation mandating 'due diligence' verification on behalf of food businesses and simultaneously, the IFS development was supported by EU regulations promoting the development of own industry standards. Second, governmental authorities reportedly adopt IFS requirements in developing inspection guides such as the "Product-Safety Checklist" for governmental inspection authorities. Third, the subtlest interaction between the IFS and public regulations is the *absence* of further regulations, as the IFS delivers improvements limiting further need for regulation.

6.4 Structure of the IFS

IFS is financed by licensing IFS to certification bodies and collecting fees of 200 Euro per uploaded audit report²⁰. IFS' emphasis on its purpose as a "risk-based scheme" with a *global* approach (IFS Food 6, 2014, p.11) is reflected in its structure, which includes an international "IFS Board of Directors", "Technical Committee", "IFS sub working groups", "National working groups" (Germany, France, Italy, Spain, USA) and the "IFS Review Committee". Figure 6.2 illustrates the interactions between these IFS bodies:

managed by several national bodies, it takes longer than the IFS to adapt ISO standards to new regulations and industry developments.

²⁰ The IFS is criticised for imposing a lump-sum fee instead of a percentage-based fee for audit reports. Moreover, the financing systems do not include retailer payments, who are key beneficiaries of the schemes. Retailers are mostly excluded from the fees, because the only IFS scheme for retailer certification - IFS Food Store launched in 2013 - is voluntary and most retailers do not impose certification against themselves. Hence, as retailers do not undergo IFS audits they do not pay fees.

Suppliers typically invest significantly into the IFS certification process. An average supplier cost-breakdown for IFS certification involves:

- Cost of external IFS consultant for audit preparation: 5-8,000 EUR
- Certification cost (payment for audit; uploading audit report): 800-1200 EUR
- Indirect costs incurred in certification: time invested by company management to implement the processes and documentation: 100-200h + cost for adjusting processes and plant facilities (i.e., windows, washbasins etc.); laboratory sample tests may range from 100-250 EUR per sample (depending on level of analysis and batch size) + training of quality managers to IFS specifications + managing a computer system for audit data, sample laboratory results, storing product samples; tracking data.

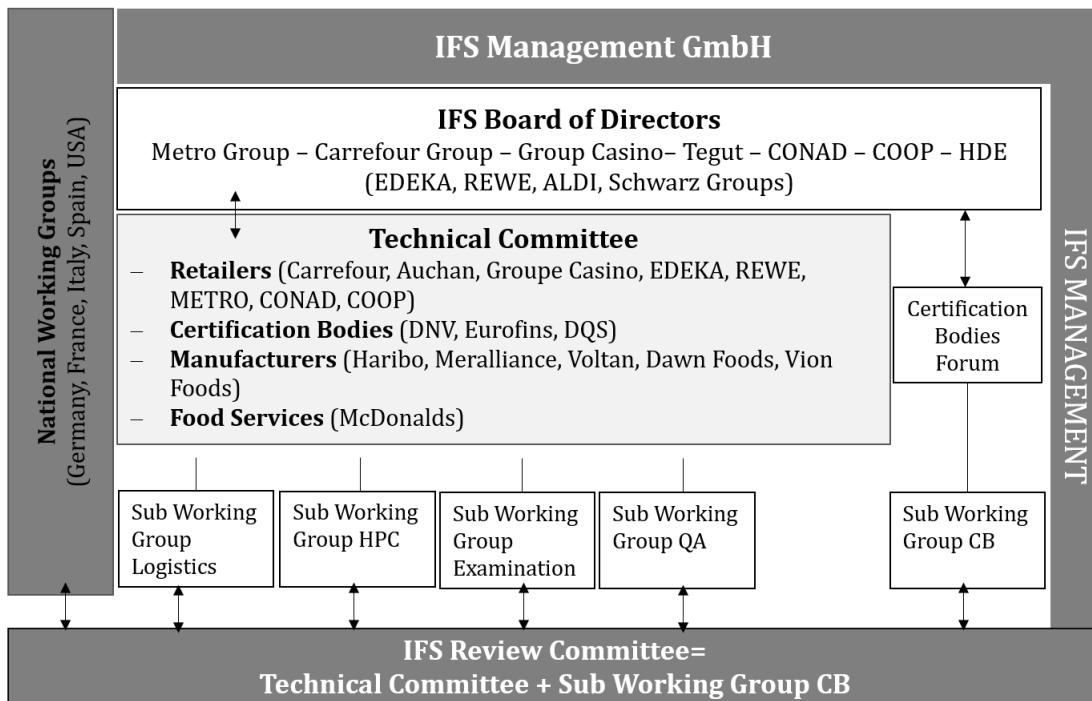


Figure 6.2. IFS Structure. Adapted from IFS Organisation, 2015.

The IFS Board of Directors oversees the general management and assumes representative functions, such as at the Global Food Safety Initiative (GFSI)²¹, which benchmarks industry food standards globally. Members of the Board of Directors reappear in *each* of the key IFS bodies, which highlights the retailers' influence. The IFS Board of Directors interacts directly with the "IFS International Technical Committee" (IFS ITC) and the "Certification Bodies Forum". IFS ITC members include representatives of retailers, manufacturers, certification bodies and food services. The IFS ITC develops, defines and tests technical IFS requirements, suggests and implements changes to the standard content, develops auditor training schemes and requirements for accreditation and certification bodies. To tackle diversification and specialisation of IFS schemes, the IFS ITC draws expertise from multiple sub-working groups. Closer inspection of the sub-working groups demonstrates the dominant influence of retailers, who occupy two of five sub-working groups, in addition to their already strong representation in the IFS ITC and Board of Directors.

6.5 IFS certification process

Prior to launching the IFS, retailers and manufacturers relied on second party audits administered directly by company-owned quality assurance departments. However, with the internationalization and increased number of businesses involved in supply and distribution activities, and the need for specialised expertise in auditing a variety of businesses, second

²¹ The Global Food Safety Initiative (GFSI) was launched by the Food Business Forum – an association of European and US retailers in 2000. GFSI is a major industry funded body representing more than 75% of food retail revenue globally. GFSI benchmarks various industry standards, as it regards "food safety as a non-competitive issue, as any potential problem arising may cause repercussions in the whole sector" (GTZ Report, 2007, p.110).

party audits became ineffective. Modelled on the British Retail Consortium (BRC) standard, IFS relies on third-party auditing²², as illustrated in Figure 6.3:

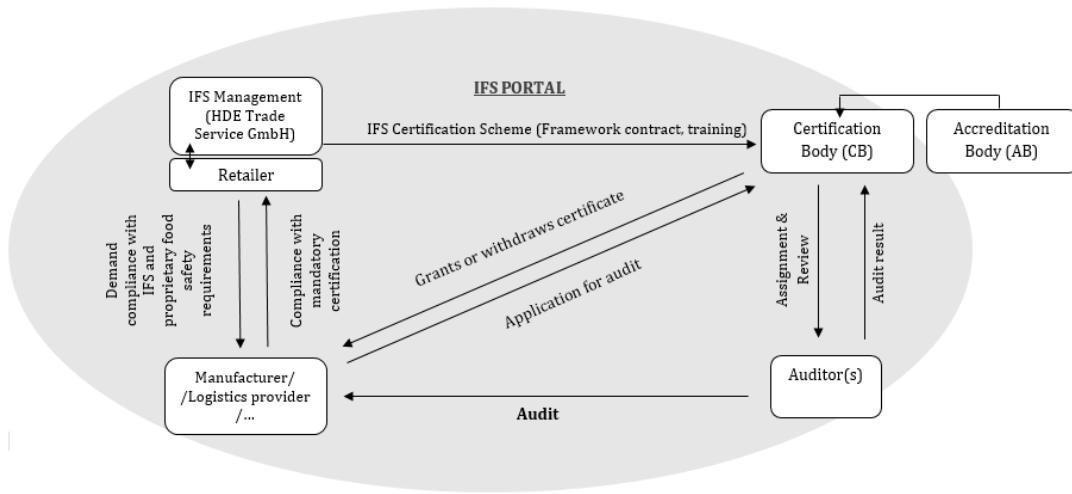


Figure 6.3. IFS certification process.

Figure 6.3 depicts the IFS third-party certification process, consisting of interactions between: (a) the HDE Trade Services GmbH and Certification and Accreditation Bodies; (b) manufacturers and auditors; and (c) manufacturers and retailers. The 'IFS Audit Portal' database – denoted by the grey circle – provides the platform for recording all interactions and sharing information between selected members in real-time.

Interaction between the HDE Trade Services GmbH and Certification and Accreditation Bodies

The HDE Trade Services GmbH grants IFS certification licenses to accredited certification bodies (CB). Eligible CBs must demonstrate accreditation according to ISO/IEC 17020 and ISO/IEC 17065²³. ISO accreditation enhances the liability defence, credibility, legitimacy of contracted CB. The framework contract between HDE and CB specifies different audit requirements for each IFS scheme, including consent to surveillance audits, auditor examinations and selective sharing of audit results.

For all IFS schemes except for IFS Food Store, the CB must upload the audit report to the 'IFS audit portal', which allows three user groups access to the audit report: CBs, retailers and certified companies. CBs use the portal to upload reports, suspend certifications, manage audit schedules (visible to the retailers). Retailers use the audit portal to identify and add certified

²² The first IFS Food reached 80% similarity with the BRC. The remaining 20% reflected differences originating from different food law requirements in the United Kingdom and Germany. Later IFS Food versions vary more significantly from the BRC due to the IFS' development of the 'IFS Integrity Program' and diversification of IFS into fields such as logistics, brokering and packaging.

²³ The ISO/IEC 17020 is a standard for 'conformity assessment' and specifies requirements for audit performance. ISO/IEC 17065 offers requirements for bodies certifying products, processes or services.

companies to 'favourites' and receive real-time notification of certificate suspension. Certified companies use the audit portal to access and unlock their audit report to all retailers and manufacturers to disclose their certification results. The IFS Food Store is the only scheme prohibiting uploads and sharing of *any* IFS Food Store audit report in the IFS audit portal (IFS Food Store, 2013, p.32).

Interaction between manufacturers and IFS auditors

A manufacturer's certification by IFS auditors comprises seven stages, illustrated in Figure 6.4:

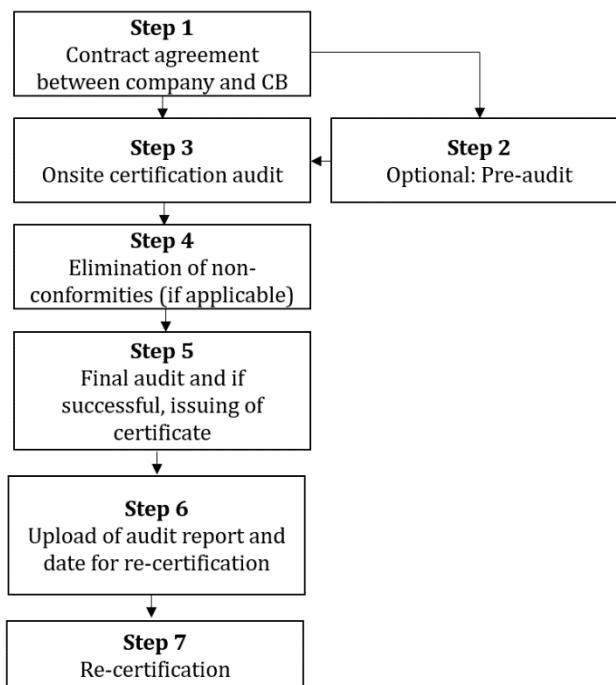


Figure 6.4. IFS certification.

Each stage is trackable via the IFS audit portal. The IFS Food (see Table 6.2) provides the checklist for on-site audits, with results ranging from higher-, medium-level or failure.

Interactions between retailers and manufacturers

IFS certification is 'de-facto mandatory' for all businesses supplying German retailers. Typically, retailers request manufacturers' IFS certification via retailers' General Terms and Conditions or framework contracts. Non-compliance with GTC or framework contract requirements results is a breach of contract that may result in immediate contract termination. Manufacturers who reject "voluntarily participating" in the IFS (ID 34) or fail certification are delisted from invitations to annual retailer negotiations. Moreover, manufacturers must meet higher-level IFS certification to remain listed as eligible suppliers, as the IFS audit portal ranking allows retailers to delist companies with lower IFS results.

Achieving even a medium-level IFS certificate is tied to the condition (stated in IFS Food 6 and respective framework contracts) that the certified company ensures all its sub-contractors, such as raw material suppliers, importers, packaging and labelling suppliers, and logistics partners, are certified according to relevant IFS schemes. This provision was added to IFS Food 6 and other IFS schemes to ensure IFS adoption across all retailer-manufacturer supply and distribution relationships: The mechanism operates by tying the certification of one company to this company's verification that all its business partners are IFS certified. Consequently, retailers' preference for IFS certification manifests *beyond* their direct interactions with manufacturers.

The standard document functions as a common reference interlinking the interactions between the HDE Trade Service GmbH, CBs, manufacturers, auditors, retailers and third parties such as logistics, packaging and laboratory service providers, regardless of the companies' geographical location.

6.6 IFS Food 6

IFS Food 6 specifies, on 152 pages, product and process regulations ensuring food safety and quality. The standard document is the institutional and technical core of the IFS, containing 21 requirements for 'risk analysis', demonstrating the standard's focus on risk and food safety at the industry level. The standard's core principle is process specification and documentation: Written evidence of process implementation is key to prove compliance for liability and due diligence reasons. Specifically, IFS Food regulates:

- a) Managerial responsibility for food safety, quality, environmental and social requirements;
- b) Internal and external processes for food safety and quality;
- c) Resource management;
- d) Production, manufacturing and purchasing specifications;
- e) Laboratory analyses;
- f) Food defence specifications.

IFS requirements are very detailed (see Table 6.2) because the aim is to limit variability in food safety and quality processes across companies and markets. Table 6.2 provides a summary of IFS Food 6 (pp.119-147):

Table 6.2. IFS Food 6

K. O. criteria: Knock-out criteria are mandatory IFS requirements. Non-compliance with one k.o.-criterion results in certification failure.

Sections marked in 'red' highlight changes to IFS Food compared to Version 5.

IFS requirement	Summary of key requirements
1. Corporate managerial responsibility	<p>1.1 K. O. 1: Documentation demonstrating assignment of senior management and employee responsibilities for food safety and quality.</p> <p>1.2 Senior management considers as a minimum: customer focus, environmental responsibility, sustainability, ethics and personal responsibility, product specifications.</p> <p>1.3 Designated IFS representative.</p> <p>1.4 Food safety and quality department reports directly to senior management.</p> <p>1.5 System provisions updating management of relevant food safety and quality legislation, scientific/technical developments and industry codes of practice.</p> <p>1.6 The company informs its customers immediately of non-conformities with product specifications, including cautionary notifications raised by competent authorities.</p> <p>1.7 Documentation of customer needs' analysis and expectations.</p> <p>1.8 Food safety and quality management systems are reviewed frequently, including at least: audit result reviews, customer feedback, preventive and corrective actions.</p> <p>1.9 Regular inspection of physical facilities.</p>
2. Food safety and quality management systems	<p>2.1 System provisions for food safety and product quality management.</p> <p>2.2 Reasons for document amendments related to product specifications are recorded in writing.</p> <p>2.3 All records related to product specifications are complete, updated and available on request.</p> <p>2.4 Records are legible, genuine and maintained so that subsequent manipulation of records is impossible.</p> <p>2.5 All records comply with legislation.</p> <p>2.6 K. O. 2: Implementation of Hazard Analysis and Critical Control Point (HACCP) system based on Codex Alimentarius guidelines: The HACCP system covers all raw materials, products and processes.</p> <p>2.7 HACCP is reviewed following any modifications to products or processes.</p> <p>2.8 Designated HACCP team (cross-disciplinary, certified HACCP training).</p> <p>2.9 Implementation of hazard analysis for each ingredient and processing stage.</p> <p>2.10 Hazard analysis includes risk analysis related to physical, chemical and allergen elements.</p> <p>2.11 Each CCP is assigned critical limits to identify deviations.</p> <p>2.12 Monitoring provisions ensure HACCP system effectiveness (i.e., internal audits, sampling, complaints analysis by authorities, customers or end-consumers).</p>

	<p>2.13 All HACCP documentation are archived for at least one year following the expiration of respective products' 'use by' date.</p>
3. Resource Management	<p>3.1 K. O. 3: Provisions ensuring personal hygiene (i.e., protective clothing, eating and drinking, fingernails, beards). Requirements consider risk to product and process specifications.</p> <p>3.2 Personal hygiene requirements are compulsory for all employees, contractors and visitors.</p> <p>3.3 Provisions and compliance with procedures for employees affected by infectious health issues.</p> <p>3.4 Visible jewellery (incl. piercings) and watches must not be worn. Guidelines for work and protective-wear laundry are implemented and reviewed regularly.</p> <p>3.5 Provisions and documentation of employee training regarding product specifications. Training must include seasonal or temporary workers. Records pertaining to each training event (date, attendance, content) are available on request.</p> <p>3.6 Staff facilities comply with highest levels of cleanliness (i.e., provision of hand contact-free fittings, liquid soap, waste containers with contact-free opening) to minimise food safety and contamination risks.</p> <p>3.7 Employees observe strict guidelines for brought-in foods.</p> <p>3.8 Provision for controlling hand hygiene effectiveness.</p> <p>3.9 Regular hygiene training for all relevant employees.</p>
4. Production and manufacturing processes	<p>4.1 Product and process specifications are agreed between contract partners before the contract is concluded.</p> <p>4.2 Changes to existing contracts must be in writing by both parties.</p> <p>4.3 K. O. 4: Compliance with customer specifications for all ingredients and end-products. Specifications are updated and comply with all destination markets' legislation.</p> <p>4.4 K. O. 5: Compliance with customer product and process specifications.</p> <p>4.5 Documented shelf-life and laboratory tests.</p> <p>4.6 Laboratory test validation for nutritional information and claims mentioned on labels.</p> <p>4.7 Monitoring purchasing of externally sourced products and services that may impact product safety and quality. Monitoring results are documented in the food safety and quality management system. Purchased products are monitored for authenticity and product specification compliance.</p> <p>4.8 Documentation of supplier approval and monitoring procedures.</p> <p>4.9 Supplier monitoring includes specific assessment criteria, audits, certifications, supplier reliability and complaints analyses.</p> <p>4.10 For retailer-brand products: Manufacturer ensures sub-contractor's compliance with customer specifications of finished or semi-finished products. Audit report includes valid IFS-certifications of all sub-contractors and lists all outsourced products or services.</p> <p>4.11 Regular hazard analysis for packaging materials.</p>

	<p>4.12 Compliance with customer specifications and legislation for packaging materials and processes.</p> <p>4.13 Packaging hazard analysis for each product includes organoleptic tests, storage tests, chemical analysis, migration tests.</p> <p>4.14 Physical factory specifications (i.e., risk analysis of factory environment, such as ground, air, water, walls, windows, ceilings).</p>
	<p>4.15 K. O. 6: Risk analysis of foreign materials (i.e., glass, wood) to avoid contamination.</p> <p>4.16 No use of wood or glass in areas identified in the hazard analysis.</p> <p>4.17 Pest control complies with legislation and is performed by qualified staff. For external service providers, written contracts must be drafted.</p> <p>4.18 Pest control for incoming deliveries.</p> <p>4.19 Receipt of goods and storage: all incoming goods are checked for conformity with specifications. Documentation of test results.</p> <p>4.20 Storage and transportation of raw, semi-finished or finished goods must minimize cross-contamination.</p> <p>4.21 All third-party transportation or service providers are IFS-Logistics certified.</p> <p>4.22 Facilities repairs must not affect product safety or quality specifications.</p> <p>4.23 Equipment and tools used in direct contact with food are certified and compliant with legislation.</p> <p>4.24 Equipment and tools are clean.</p>
	<p>4.25 K. O. 7: Traceability (including GMO; allergens): full traceability system documented for product lots, raw materials and packaging.</p> <p>4.26 Downstream traceability records are available within the timeframe specified by the customer [most retailers specify four hours].</p> <p>4.27 Annual testing and review of traceability system.</p> <p>4.28 Traceability system for GMO in all ingredients.</p> <p>4.29 Compliance with customer GMO specifications.</p> <p>4.30 Provisions preventing GMO cross-contamination.</p> <p>4.31 Declaration of allergens.</p> <p>4.32 Verified compliance with customer product and process specifications related to 'free from'-requirements.</p>
5. Laboratory analyses, measurements and improvements	<p>5.1 K. O. 8: Internal audits: At least annual performance of internal audits verifying compliance with IFS.</p> <p>5.2 Internal auditors are independent from audited departments.</p> <p>5.3 Internal audit results are communicated to senior management; improvements scheduled and communicated to all relevant employees.</p> <p>5.4 Provisions for prompt internal notifications, recording and monitoring of equipment malfunctions and process deviations.</p>

	<p>5.5 Regular review and testing of calibration, adjustment, measurement and monitoring devices. All devices comply with legislation.</p> <p>5.6 Compliance with product specifications is verified with regular microbiological, physical and chemical analyses.</p> <p>5.7 External laboratories performing product analyses are ISO 17025 accredited.</p> <p>5.8 Regular laboratory analyses and prompt result evaluation.</p> <p>5.9 Regular review of quantity measures.</p> <p>5.10 Verification of finished product quality with internal organoleptic tests.</p> <p>5.11 Regular cross-checks on product and packaging allocation.</p> <p>5.12 Product quarantine and release procedures for raw materials, (semi-) finished products, packaging materials.</p> <p>5.13 Complaints management system for authorities and customers.</p> <p>5.14 Justified complaints are addressed immediately.</p> <p>5.15 Complaints analysis and implementation of preventive measures to avoid re-occurrence.</p>
	<p>5.16 K. O. 9: Product withdrawal and recall management: Documented procedure defining responsibilities and processes for managing incidents affecting food safety and quality. Minimum requirements: designated and certified crisis team, alert contact list, legal advisory contact, customer information, internal and external communication plan. Customers must be informed immediately.</p> <p>5.17 Regular testing of recall and withdrawal procedures.</p> <p>5.18 Provisions for managing non-conformities in raw materials, (semi-) finished products and packaging materials.</p> <p>5.19 Permanent availability of designated person managing non-conformities.</p> <p>5.20 Immediate response procedures for correcting non-conformities.</p> <p>5.21 Products non-conforming with specifications are not delivered to customer. Exceptions are agreed in writing.</p> <p>5.22 K. O. 10: Corrective actions: documented provisions for analysing and preventing re-occurrence of non-conformities.</p>
6. Food defence and external inspection	<p>6.1 Designated and certified food defence team.</p> <p>6.2 Documented food defence hazard assessment based on legislation and consideration of plant and production security.</p> <p>6.3 Alert system implementation and regular testing.</p> <p>6.4 Adequate protection and monitoring of critical areas and access points.</p> <p>6.5 Protective measures preventing food tampering.</p> <p>6.6 The company's food defence considers a visitor policy (i.e., visitor registration; restricted access areas).</p> <p>6.7 Annual employee training in food defence.</p> <p>6.8 Employee hiring and termination processes consider food security.</p> <p>6.9 Food defence provisions consider external inspections.</p>

Table 6.2 highlights that IFS Food offers a comprehensive scheme addressing variation in product safety, quality and processes; variation in social and environmental standards and legal regulations. It is worth highlighting two characteristics of IFS Food relevant to dealing with risk:

First, while EU and German law are *outcome*-based and company centred, IFS Food combines outcome *and* process specifications ensuring food safety (see, for example, 3.6; 6.8) *beyond* single companies. In requesting auditees' sub-contractor compliance with IFS schemes, IFS Food automatically regulates outcomes and processes across food supply and distribution activities (see, for example, 4.10; 4.21).

Second, IFS Food links certification to compliance with both legislation (see, for example, 2.5; 4.3; 5.5) and customer specifications (see, for example, 4.1-4.4; 4.19), which facilitates retailers' and manufacturers' use of IFS certification for monitoring compliance with *own* contract specifications. With regard to legislation, IFS Food is designed to address legislative limitations and to manage food safety at the global level. For example, considering the shortcomings of the European RASFF (such as delayed or incorrect data entry) the IFS uses the 'IFS Audit Portal', which is globally accessible and provides full traceability; real-time updates on audit results, product recall notifications (with barcode level detail); and tracking of laboratory test results. Moreover, including various businesses such as brokers, logistics and packaging providers in the 'IFS Audit Portal' allows more efficient mobilization of actors for product recall.

6.7 IFS monitoring and enforcement

Launched in 2010²⁴, the 'IFS Integrity Program' monitors compliance with IFS schemes, sanctions non-compliance and resolves complaints and disputes between auditees, auditors and CBs, accreditation bodies and retailers. Figure 6.5 depicts the 'IFS Integrity Program' structure:

²⁴ The 'IFS Integrity Program' was launched following a major food safety incident at the Bavarian company 'Mueller Brot', which was identified by public food inspection authorities as operating with extremely poor hygiene standards while remaining registered with a 'high-level' IFS compliance certificate.

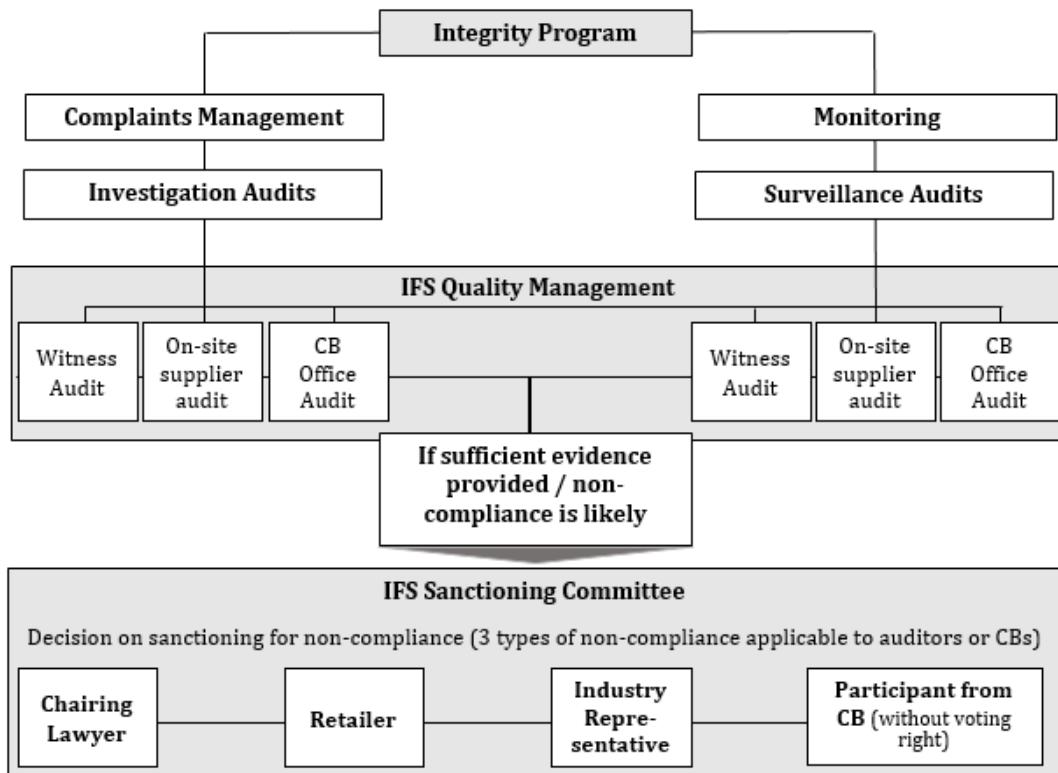


Figure 6.5. IFS Integrity Program. Based on IFS Food 5.

To ensure audits comply with IFS requirements, the 'IFS Integrity Programme' employs two types of monitoring: preventive 'surveillance audits' and response-based 'investigation audits', both including CB office audits: on-site supplier audits and witness audits. All surveillance audits are performed regardless of whether the IFS received a complaint (IFS Food 6, p.38). On-site supplier audits are carried out independently of scheduled regular IFS audits, and witness-audits require an additional IFS Integrity audit, which assesses the assigned IFS auditor performance in real-time. Investigation audits are initiated in response to complaints. IFS solicit complaints via its website, employing e-mail or a contact form. Figure 6.6 offers a screenshot of the complaint form, which can be completed by any natural person or legal entity:

IFS Complaint Form

complainant

Company name *:	<input type="text"/>
Street/No *:	<input type="text"/>
Postal code/ City :	<input type="text"/> / <input type="text"/>
Country :	<input type="text"/>

Contact person

Given name/ first name *:	<input type="text"/>
Surname/ last name *:	<input type="text"/>
email *:	<input type="text"/>
phone :	<input type="text"/>

complaint concerning	<input type="text"/> Please choose! <input type="button" value="▼"/> <div style="border: 1px solid #ccc; padding: 2px; display: none;"> Please choose! Supplier Certification bodies others </div>
----------------------	---

Figure 6.6. IFS complaint form. IFS website, June 5, 2015.

Incoming complaints are reviewed by the IFS Management and may result in contacting the CB or accreditation body; conducting internal research or filing investigation audits. If investigation audits confirm deficiencies, the IFS Management anonymises and transfers the case to the IFS Sanctioning Committee, who decides on adequate sanctions.

The Sanctioning Committee comprises a lawyer chairing, a food industry representative (i.e., a senior quality manager from a food manufacturing business), a retailer and CB representative. The CB representative has no voting rights and attends primarily for expertise provision on questions regarding accreditation, certification and auditing. Depending on the case severity, the Sanctioning Committee applies the 'Sanctioning Cascade' principle and records all actions in the 'IFS Audit Portal'. Light sanctions include CBs refunding the costs for investigation audits to the IFS and launching auditor training schemes. Medium sanctions include issuing fines, auditor suspension and compulsory IFS academy attendance. The most severe sanctions include immediate termination of CB licensing contracts.

Apart from monitoring and sanctioning activities, the 'IFS Integrity Program' administers dispute resolution by resolving complaints and non-compliance confidentially and prior to public food inspection authority involvement. Based on the cases processed by the 'IFS Integrity Program', the 'IFS Technical Committee' adapts remedial changes to respective standard schemes to prevent similar incidents.

6.8 Change to IFS schemes

Changes to IFS schemes occur in three ways: (a) The launch of a *new standard category* (such as IFS Logistics); (b) the *launch of a new standard version* (such as IFS Food 6); or (c) changes *within a valid standard version*.

The launch of a new standard category is typically triggered by experienced risks to food safety and quality that occur outside the scope of current standard schemes. For instance, IFS Logistics launched in 2006, following food safety incidents caused by inadequate product transportation and storage (ID 25).

New versions of existent IFS schemes, such as the launch of IFS Food 6, occur when several companies experience limitations of existent standard regulations. For example, IFS Food 5 was revised based on:

- a) Two major food safety precedent cases: bread contamination and the E.-coli-outbreak;
- b) The German government's regulation of 'health claims' for food products and transnational free trade negotiations between the German and U.S. governments;
- c) Changes to 'best practice' guidelines for standard-setting bodies published by the GFSI;
- d) Repeated user complaints over the standards' limited clarity.

The introduction to IFS Food 6 (p.12) highlights that changes were necessary based on "*experience, changes in legislation and a revision of the GFSI Guidance Document*". The most notable changes in IFS Food 6 comprise the development of the 'IFS Integrity Program'; the introduction of unannounced audits; adoption of stricter and detailed hygiene regulations; the introduction of IFS Food Security requirements; and the adaptation of the k.o.-criterion requesting immediate customer notification in case of product recalls. This illustrates that changes to a standard document may result in structural changes, such as the creation of new IFS committees and processes. In response to EU and GFSI guidelines, the IFS allows for electronic submissions of standard revisions recommendations from all eligible members (see Figure 6.7, user survey), such as employees of IFS certified companies, of CB or accreditation bodies. This facilitates ensuring better acceptance of revisions and 'bottom-up' sourcing knowledge on standard performance. Figure 6.7 illustrates the change process from IFS Food 5 to 6:

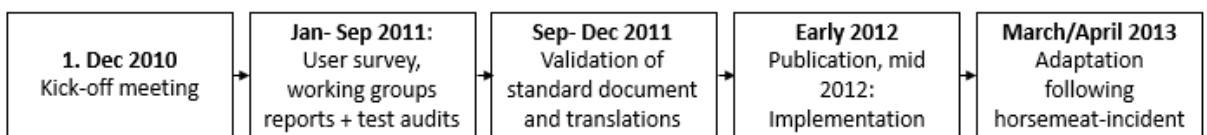


Figure 6.7. Revision process of IFS Food 5.

While IFS Food 6 was published following one year of revisions, test-audits and translations, the 'horsemeat incident' demanded immediate changes to the standard in March/April 2013. The 'horsemeat incident' in December 2012-February 2013 refers to the meat adulteration case, where products labelled as 'beef' contained horsemeat or pork traces detected at DNA-level analyses. German retailers, including REWE, Aldi, EDEKA, Tengelmann, Lidl and Metro recalled 72 tonnes of beef that was manufactured into 179,000 packages of various products, including retailer and manufacturer brands such as Buitoni and Nestle. The significant impact in terms of volume, complexity, product recall cost and damages to sales and consumer confidence caused the IFS Management to launch an emergency update to IFS Food 6, requesting mandatory DNA tests with immediate effect.

The update was communicated via the IFS Newsletter and 'IFS Audit Portal' notifications, stating that:

"The IFS expects manufacturers to develop a risk-based control plan to check authenticity of incoming raw materials and/or semi-finished products. ... further tests, like DNA-tests, must be performed. The main objective of these amendments is to...ensure companies focus on checking the authenticity of raw materials and/or semi-finished products" (IFS E-mail, 2013).

Additionally, modifications to IFS Food 6 became effective on April 1st, 2013. Figure 6.8 shows track-changes to relevant sections of IFS Food 6:

changed	4.4.5	The purchased products shall be checked in accordance with the existing specifications and their authenticity, based on hazard analysis and assessment of associated risks . The schedule of these checks shall, as a minimum, take into account the following criteria; product requirements, supplier status (according to its assessment) and impact of the purchased products on the finished product. The origin shall be additionally checked, if mentioned in the specification.
	4.4.6	The purchased services shall be checked in accordance with the existing specifications. The schedule of these checks shall at least take into account the following items: service requirements, supplier status (according to its assessment) and impact of the service on the finished product.
added	4.4.2	Trade of manufactured goods
	5.6.8	Based on hazard analysis, assessment of associated risks and on any internal or external information on product risks which may have an impact on food safety and/or quality (incl. adulteration and fraud) , the company shall update its control plan and/or take any appropriate measure to control impact on finished products.

Figure 6.8. Changes to IFS Food 6. IFS Food 6, p. 62 and p. 78.

IFS explained the changes to IFS Food 6 in the IFS Doctrine, stating that:

"As a result of the most recent fraud case, experts from the food industry, retail and certification bodies from France, Germany, Italy, the Netherlands, Spain and the USA have agreed to change the standard requirements. The new requirements demand from each manufacturer to be able to produce according to retailer specification, regardless of whether the company produces the product itself or purchases the product or parts of it. The manufacturer must implement processes to ensure the authenticity of products, ingredients or raw materials purchased" (IFS Doctrine, Version 2, March 2013, p.10).

Changes to IFS Food 6 following the horsemeat incident exemplify change processes to IFS standard schemes. While the IFS' response to the incident was almost immediate, the German government was in the process of drafting an 'Action Plan', parts of which are still under consideration. While communication of updates via e-mail and IFS Portal notifications is reserved for emergencies, the usual communication includes a six-month notice and provisions of supplementary documents, such as the 'IFS Doctrines', IFS Presentations, translated versions of the standard and international 'IFS roadshow seminars' and training schemes. Since retailers' and manufacturers' GTC and contracts reference valid IFS certification, non-compliance with the latest IFS versions may be filed as breach of contract and therefore acts as an additional motivator to adopt the latest standard requirements.

6.9 Benefits and limitations of using IFS Food for dealing with risk

IFS Food signifies a change in dealing with risk by shifting from "controlling the final product to process-oriented quality assurance systems throughout all supply and marketing stages" (GTZ report, 2007, p.141). This has contributed to the benefits of:

- a) Limiting risks to food safety, consumer health and environment;
- b) Limiting legal ambiguity;
- c) Limiting liability risks verifying due diligence;
- d) Facilitating interaction between multiple actors involved in dealing with risk through shared regulations; product and process specifications; and information exchange systems (IFS Audit Portal).

These benefits are evidenced in a measurable reduction in food safety and quality incidents: for example, surveyed manufacturers across several product categories report 17% reduction in food recalls, 27% reduction in customer complaints and 40% reduction in product defects (White Paper IFS Food, 2012, p.3). Retailer Metro reports a 90% reduction in product recalls over five years (Jurgen Matern, Vice President of Sustainability and Regulatory Affairs of the Metro Group, GFSI Conference, 2012). Limiting the occurrence of food safety and quality incidents translates in benefits to key company resources, such as the:

"protection of the company, product and brand reputation; opportunities to enlarge customer base by serving customers requiring 3rd party certifications; use of the IFS logo in B2B relationships to signal compliance with highest food

safety and quality requirements" (IFS Fact sheet, IFS Food, Version 6, 2012, p.1).

While the IFS significantly enhances food safety and quality beyond the German market, there remain two limitations: First, heavy reliance on auditing processes offers merely a snapshot evaluation of food safety and quality provisions. Second, it becomes increasingly difficult to preserve the parsimony and global applicability of IFS Food while continuously adapting the standard to precedent cases, technological and legislative changes (ID 14). Currently, IFS Food applies to all company sizes, across all food categories, globally. While it creates a global standard for dealing with risk, it necessarily involves ambiguity in the content of the IFS audit guidelines, which may result in variability in implementation and outcomes. Moreover, strong focus on quality attributes and retailer specifications exposed IFS Food to critiques from the World Trade Organisation (WTO): The WTO questions the legitimacy of IFS, suggesting that retailers use 'food safety concerns' to cover the enforcement of retailer-specific quality specifications that function as non-tariff barriers (WTO, 2010). Current concerns over sustainable use of soil, water and crops, ethical commodity trade and animal welfare are projected to influence future changes to IFS Food (ID 26).

6.10 Conclusion

This chapter has examined how German food retailers and manufacturers use the IFS for dealing with risk in direct and indirect interactions. Following a series of food safety incidents in the 1990s and changes to the European and German food laws in the early 2000s, German food retailers developed the IFS with the aim of delivering a uniform, internationally valid, collective institutional system for ensuring food safety across the industry. The IFS content and structure demonstrate that the standard body provides and continuously adapts standard regulations, monitoring, sanctioning and dispute-resolution provisions in light of companies' ongoing experience in dealing with risk.

CHAPTER 7

DEALING WITH RISK: THE USE OF GENERAL TERMS AND CONDITIONS

CHAPTER 7. DEALING WITH RISK: THE USE OF GENERAL TERMS AND CONDITIONS

7.1 Introduction

This chapter reports how retailers and manufacturers use General Terms and Conditions (GTC) for dealing with risk in direct and indirect relationships. GTC - also referred to as 'standard form contracts' - are *unilaterally* drafted contracts that are designed by one party with the purpose of using the terms in multiple interactions. Drawing on evidence from in-depth interviews and current GTC-in-use of four German retailers, this chapter describes how GTC facilitate dealing with risks across direct and indirect business interactions by limiting uncertainty and impact.

Starting by describing the legal standing of GTC in business interactions, the chapter next utilises evidence from in-depth interviews and current GTC-in-use of four German retailers to examine the content of GTC. Finally, the chapter reports how actors share GTC across direct and indirect interactions, why and how GTC change and what constitute the benefits and limitations of using GTC for dealing with risk.

7.2 Legal standing of GTC

GTC are unilaterally drafted contracts that are legally enforceable under German private contract law. EU and German regulations regarding the content and use of GTC in *business-to-business* interactions are brief compared to GTC intended for *business-to-consumer* interactions²⁵. Indeed, there is *no European regulation on the use of GTC in business-to-business interactions*, as the EU Council Directive 93/13/EEC on "Unfair Terms in Consumer Contracts" (1993) applies exclusively to GTC in business-to-consumer settings. According to the German Civil Code (Bürgerliches Gesetzbuch, hereafter referred to as the BGB), GTC are defined as "*all those contractual terms that have been formulated in advance by one contract party for the use in multiple contracts and which are presented to the other contracting party upon entering into a contract*" (BGB §305 para.1).

To qualify as GTC, the terms *must* be used in a minimum of three interactions and *must* be formulated by *one party*: The counterparty must not have an opportunity to alter clauses, yet must consent to the GTC as presented if the transaction is to be completed (Zerres, 2011). The GTC become effective if the contract party consented to the GTC: Consent does not require written or verbal confirmation, as the act of *not dissenting in written or verbal form* counts as

²⁵The first monograph on GTC law written by Ludwig Raiser appeared in Germany only in 1935 and the German legislature decided to (slightly) regulate the use of GTC as late as 1977 by issuing the "Law for regulating GTC" (Gesetz zur Regelung des Rechts der Allgemeinen Geschäftbedingungen, AGB-Recht). The primary purpose of this law was, however, to regulate the use of GTC in *business-to-consumer interactions* to protect consumers from unfair trading practices. Hence, the regulation did not affect the freedom of use of GTC in business-to-business interactions. The regulation passed in 1977 is still valid today and was merely transferred on January 1st 2002 to the BGB located at §305 onwards.

acceptance. This is referred to as “silent concurrence of wills” and is sufficient for GTC to become the legal basis for transaction(s)²⁶. As a result, the use of pre-formulated terms and evasion of negotiations significantly speeds up the process of completing transactions.

Negotiated clauses between parties *take precedent* over unilaterally defined GTC (BGB § 305 b). However, there are strict requirements for ‘negotiation’ and both parties must verify it has taken place. For example, offering to choose between alternative clauses or filling in gaps in a contract do not qualify as ‘negotiation’.

GTC used in business-to-business interactions are granted significant freedom: GTC may be shared as a separate document with each party; as a placard displayed at the issuer’s premises; or as a contractual attachment. Font, length and complexity are also subject to the issuer’s discretion. The BGB offers *one* paragraph detailing the “test of reasonableness of contents” by stating that GTC become “ineffective if, contrary to the requirement of good faith, they unreasonably disadvantage the other party to the contract with the user” (BGB §307²⁷). Hence, the BGB limits the regulation of GTC in business-to-business interactions mostly to §305 para.1, §306, §307 and §310, which emphasize that “...reasonable account must be taken of the [habitual] practices and customs that apply in business dealings” (§310, para.1). Such provisions preserve considerable freedom in using GTC in business-to-business interactions, while maintaining GTC standing as enforceable contracts. This allows the issuer to use GTC for addressing legal loopholes²⁸ and limit exposure to risk by creating a favourable ‘liability regime’ (ID 15) that is protected by German private contract law and is valid beyond the German market.

²⁶ In the case that both parties insist on using their own GTC, the German courts typically apply the “doctrine of congruence” (Zerres, 2011, p.10). According to this doctrine, the terms and conditions of both parties that are identical or similar in meaning are retained and the terms and conditions that differ become replaced with German statutory law provisions of the BGB. This doctrine replaces the earlier application of the principle of the ‘last word’ to resolve such cases. According to the ‘last word’ principle, those GTC would take priority that have been referred to last in contractual negotiations. However, applying this principle required close analysis of the parties’ communications *ex post*, which were sometimes difficult to verify and track.

²⁷ The BGB § 308 and § 309 regulate in detail GTC content intended for business-to-consumer interactions, including a comprehensive list of prohibited clauses, such as (a) price increases at short notice; (b) lump-sum claims for damages; (c) contractual penalties (such as payment default); (d) exclusion of liability; and (e) provisions by which the user modifies the burden of proof to the disadvantage of the other party to the contract (cf. BGB § 309). BGB §310 *specifically excludes* §308 and §309 from application to GTC used in business-to-business interactions.

²⁸ In contrast with British law, German law relies on a civil law system, which comprises comprehensive statutes regulating all areas of legal conduct. For instance, the BGB comprises more than 2300 sections specifying regulations of various contract types, including sales, loan, service contracts and GTC. However, more recent contract types, such as franchising, leasing or factoring contracts, are not addressed by the BGB or any other legal statutes, and rely on most occasions on companies’ own development of contractual devices, often drawing on GTC.

7.3 Business actors

This section examines the use of GTC in interactions between retailers *Alpha*, *Beta*, *Gamma* and *Delta*²⁹ and direct and indirect relationships with manufacturers and the manufacturer's suppliers. The examined GTC include those of discounters (*Alpha*, *Beta*) and regular retailers (*Gamma*, *Delta*). Figure 7.1 offers a simplified illustration of GTC use in four sets of retailer-manufacturer interactions:

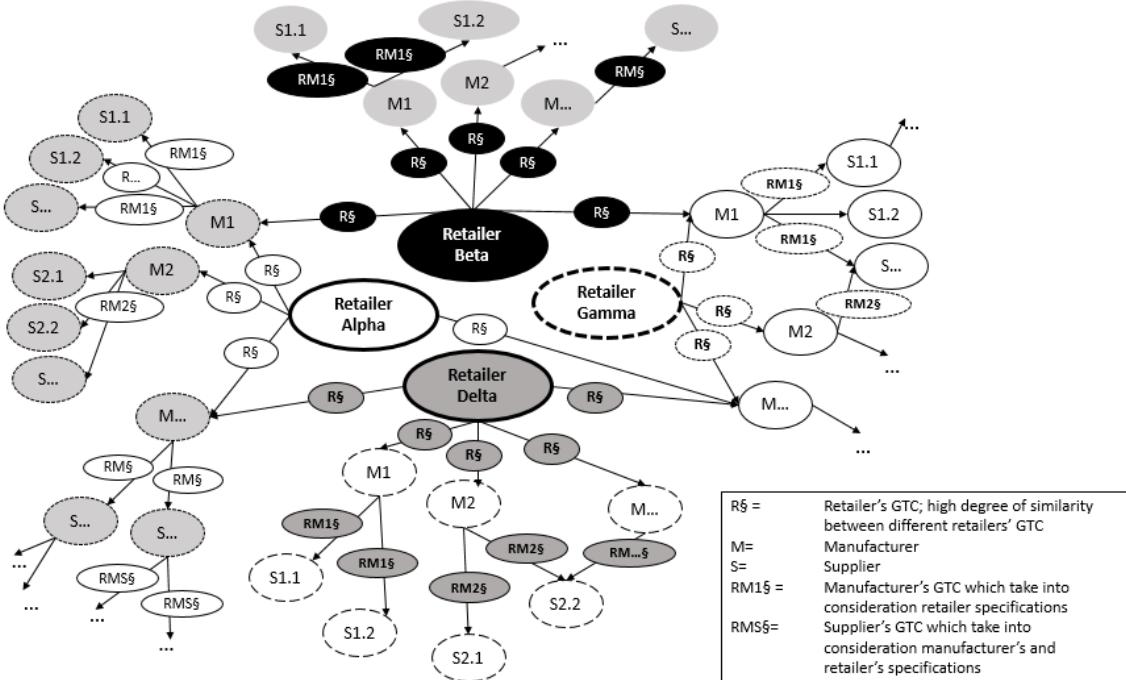


Figure 7.1. GTC in retailer-manufacturer interactions.

Figure 7.1 is a simplified illustration, because: (a) the actual number of actors involved is significantly higher, typically reaching four-digit numbers per retailer; (b) other actors, such as wholesalers, transportation or packaging providers are excluded for illustrative clarity; and (c) actual retailer-manufacturer-supplier relationships are significantly more interdependent, as each actor tends to maintain more than one retailer or manufacturer account. Nevertheless, Figure 7.1 captures three important observations:

- (1) Retailers issue GTC ($R§$) to regulate *multiple* interactions with manufacturers and all retailers' GTC show *strong similarities*.
- (2) Retailers' GTC are accepted in full by manufacturers (symbolized by the one-directed arrow). As retailers are aware of manufacturers' complex sub-contracting activities, the retailer's GTC typically require the manufacturer to ensure that all *direct and indirect* sub-contractors adhere to the retailer's GTC. Manufacturers meet this requirement by "copy-pasting" paragraphs from the retailer's GTC and adding these

²⁹ To preserve confidentiality, the retailers' revenue, market share or headquarters location are not disclosed. Anonymised details of six German retailers, including *Alpha*, *Beta*, *Gamma* and *Delta* are reported in Chapter Four.

to the manufacturer's GTC (*RMS*). This is typically repeated by the manufacturer's suppliers (*RMS\$*).

(3) Most manufacturers interact with multiple retailers, therefore consenting to multiple GTC. While strong similarity between retailers' GTC facilitates efficient compliance with multiple GTC, it also locks-in manufacturers and suppliers into a 'liability regime' of unequal risk distribution (see Section 7.5).

The distribution manager of a retailer- and manufacturer-brand supplier, who delivers to all German retailers, explains why and how the company deals with retailers' GTC by accepting and passing on the retailers' GTC to its suppliers. His account of the interaction with Gamma reflects common practice:

"Retailer purchasing managers are very difficult to deal with. Before you are even invited to negotiations, they throw at you their GTC. [...] They have huge power, they know and use it. They even have huge power compared to bigger companies than us, such as Coca-Cola, so you can imagine how much we can do about negotiating GTC. Nothing. We take it and pass it on.

Our challenge is that we stand in between retailers and importers or other suppliers, so we have risks related to purchasing products, related to manufacturing some products and risks regarding the distribution. ...Our main business is importing products from countries that German retailers classify as "developing".... The main risks we fear are related to product quality, storage, packaging... According to the retailers' GTC, the retailers may claim damages from us and we must administer all product recalls.

So, what we do is, we take the retailers' GTC and copy-paste passages about product specifications, claims for damages and recalls into the GTC we have for our suppliers. We pass on the costs one-to-one to our supplier. In 90% of our contracts, we use GTC we developed with our lawyers. We get very specific and hard GTC from our customers [retailers]. So we take some passages from the retailer's GTC, which were imposed on us and we attach them to the back of our GTC. We do it, because we have learned that the compensations retailers demand from us are super high. They can charge up to 50 000 EUR per batch.... Plus, you must consider that we can be asked to request laboratory tests, which are expensive. So, we write our own version of GTC and attach the retailers' GTC to take that risk off our shoulders. That's because we have seen that if you agree to the retailers' GTC, you will be carrying all risks all by yourself. ...In short, let's say we try transferring those risks that retailers burden us with. [...]

In most cases, our suppliers accept the GTC that we have written...because most of them want to enter the German market.... they agree to play by our rules or they go. A little percentage of our suppliers, probably less than 10%, are very big companies. With them, we cannot demand agreement with our GTC and negotiate a lot" (ID 21).

This account illuminates how and why GTC travel across a retailer's supplier network and how the GTC are used to transfer risk impact, regardless of the companies' geographical location.

Retailers' GTC govern most food production and distribution processes even *beyond the retailers' direct relationships* with manufacturers. A former quality manager at a German poultry manufacturer further explains this dynamic:

"If you supply to a discounter-retailer ... then you have specifications for everything! What you must do, with whom, from where you get any product or packaging supplies or other services, whom you must monitor and who will monitor you. The retailers sometimes write that into their GTC or they formulate the GTC in quite general terms and then they attach these pages of specifications. Delta³⁰ has written everything into the GTC. Discounters Alpha and Beta have quite general GTC...and then you get tons of specifications attached" (ID 14).

The use of GTC by retailers to 'dictate' the processes (i.e., how to produce, distribute), outcomes (i.e., product specifications) and interactions (i.e., whom to monitor) demonstrates how more powerful companies, such as retailers and some manufacturers, capitalize on the freedom granted to GTC under *private contract law*³¹ to codify and share *standardized regulations beyond direct business interactions*.

³⁰ The original names of the mentioned retailers have been substituted with the anonymized identification of the retailers.

³¹ In the civil law system, which applies to Germany, private law refers to that part of the legal system that regulates interactions between private entities, such as individuals or corporations. The use of GTC is part of contract law, which is, among other things, an element of private law.

7.4 Content of GTC

This section reports the content of four German retailers' GTC. While GTC typically span one to seven pages, they form part of a document set that includes a *"Request for Information"* (RFI³²); a *catalogue of industry standards* such as the IFS, BSCI and/or a retailer's "Code of Conduct" (CoC); and a *catalogue of proprietary retailer product specifications*, typically comprising retailer-specific requirements for each product category (such as dairy, meat, fruit and vegetables).

Positive evaluation of RFI is a necessary precondition for a contracting party to receive the retailers' GTC. The retailers' *and* manufacturer's GTCs are highly standardised. Table 7.1 provides an overview of the GTC of Alpha, Beta, Gamma and Delta. To facilitate the comparison, clauses addressing similar issues are coloured similarly across the four GTC:

<i>White</i>	Retailer specific clauses (i.e., Beta's 'Gift Policy'; Delta's 'Market Development Funds')
<i>Green</i>	Warranties, product defects, due diligence, product liability and insurance
<i>Red</i>	Product withdrawal and recall; compensation and damages
<i>Orange</i>	Pricing and payment terms
<i>Grey</i>	General regulations, scope of applications, procedure for order placement
<i>Yellow</i>	Regulations regarding deliveries, transportation, passing of risk and delivery delays
<i>Light Blue</i>	Product (quality) specifications
<i>Dark Blue</i>	Start and termination of contract(s)
<i>Turquoise</i>	Confidentiality, data protection and property rights
<i>Lilac</i>	General legal provisions, such as severability clauses, venue and court of jurisdiction

³² RFI span four to twenty pages and are used prior to the distribution of GTC or contract negotiations to screen potential contracting partners. RFI request insurance, certification and financial performance proofs and cover a range of confidential information such as "Does your company sub-contract or franchise-manufacture products? State how many and which activities are sub-contracted and how many products/ingredients in % are purchased from low-wage countries"; "State the number of court judgements in the last three years"; "Provide details of current customers"; "Has your company experienced premature contract termination? If yes, why?"

Table 7.1. German food retailers' General Terms and Conditions.

Alpha (Discounter)	Beta (Discounter)	Gamma (regular supermarket)	Delta (regular supermarket)
Date GTC were distributed and length of document			
June 2012, Germany; 1 page (font ~ Arial 8, single spaced)	June 2011, Germany; 7 pages (font ~ Arial 11, single spaced)	2011, Germany; 2 pages (font ~ Arial 8, single spaced)	October 2011, Germany; 5 pages (font ~ Arial 10, single spaced)
1. Contract Regulations	1. Scope of Application	1. Scope of Application	A. General Regulations
2. Deliveries	2. Pricing	2. Orders	1. Scope of Application
3. Warranties and Product Defects	3. Deliveries and Delays	3. Delivery and Performance-times	2. Conclusion of Contract
4. Damages to Reputation and Business, Product Recalls and Withdrawals	4. Deliveries and Passing of Risk	4. Delivery Terms and Conditions	3. Pricing, Payment Terms, Cut-off Period for Reclaims
5. Legal Consequences and Violation of Obligations	5. Delay of Payment	5. Warranties	4. Market Development Funds (MFD) and Others
6. Reservation of Proprietary Rights and Prohibition of Assignment	6. Invoicing Practice	6. Products and Dates	5. Deliveries, Damages Caused by Delay and Covering Purchases
7. Payment and invoicing	7. Warranties in Case of Product Deficiencies, Due Diligence	7. "Grüner Punkt" (German Packaging Recycling Policy)	6. Transportation and Passing of Risk
8. Termination of Contracts	8. Limitations of Actions (Verjährung)	8. Transportation Packaging (Disposal)	7. Reservation of Proprietary Rights
9. Customer Data	9. Product Quality	9. Recall, Withdrawal and Other Product Safety Measures	8. Product Specifications, Quality and Documentation
10. Venue, Court of Jurisdiction	10. Confidentiality	10. Traceability	9. Warranties and Compensation
11. Severability Clause	11. Data Protection	11. Product Returns and Compensation	10. Product Liability, Insurance and Manufacturer Liability
	12. Property Rights	12. Place of Contract Performance	11. Crisis Management, Recall and Withdrawal, Warning of Public Stakeholders; Compensation for Damages to Image
	13. Obligation to Inform	13. Certificates of Origin	B. Delivery Quotes
	14. Attachments	14. Force Majeure	12. Contract Penalty Fines in Case of Underperforming Delivery Quantities
	15. Gift Policy	15. Termination of Contract	C. REACH
	16. Venue, Court of Jurisdiction	16. Severability Clause	D. Shelf Services
	17. Other Terms and Conditions	17. Venue, Court of Jurisdiction	E. Concluding Terms and Conditions
			13. Compliance with Social Standards
			14. Confidentiality
			15. Severability Clause and Venue, Court of Jurisdiction

Similarity across the retailers' GTC highlights that the strength of GTC lies not in exploiting the legal freedom to design retailer-specific GTC, but in the *standardization of terms across multiple retailers' interactions*. GTC *limit variety in geographically dispersed interactions by standardizing a variety of activities*, including warranty management, payment and product recall procedures. Moreover, retailers' GTC are not isolated from industry standards or German legal provisions, but strongly embedded in both: For example, by cross-referencing the IFS and BSCI in retailers' GTC, these 'voluntary' industry standards become legally enforceable. On the other hand, the very enforceability of GTC relies on German statutory law and all GTC emphasise the contracting party's compliance with relevant legal regulations.

7.5 The use of GTC for dealing with risk

Table 7.2 reports the content of retailers' GTC and how the clauses address risk: Typically, a clause identifies the risk (such as delayed delivery, price increase, deficient product safety or quality) and then defines the contracting party's (CP) obligations in response to the risk.

The following list of identified risks is illustrative, rather than exhaustive, comprising:

- (1) Variation in product safety/quality; non-compliance with legal and/or retailer's specifications;
- (2) Variation in packaging, labelling and transportation;
- (3) Variation in delivery volumes or time;
- (4) Price increases (i.e., due to fluctuating commodity prices or taxes)
- (5) Infringement of intellectual property rights (i.e., concerning brands, recipes, packaging, products)
- (6) Variation in social, ethical and environmental standards by the CP or any of its sub-contractors;
- (7) Variation in a supplier's portfolio of sub-contractors;
- (8) Force majeure;
- (9) Limitation of retailer's contracting freedom due to contractual commitment to the CP;
- (10) Variation in applicable legal requirements.

These risks are mapped onto relevant GTC clauses in the left-hand column below:

Table 7.2. Content of General Terms and Conditions.

1. Industry and Retailer Standards <i>Risks: 1,6,7,10</i>	[Standard requirements are attached to the GTC or stated in the RFI] (1) Business Social Compliance Initiative (BSCI) (2) International Featured Standards (IFS) (3) Retailer's proprietary specifications
2. Scope of Application <i>Risks: 1,6,7,10</i>	(1) GTC underpin all further interactions, unless clauses are explicitly excluded in writing. (2) Retailer's GTC supersede any CP's GTC. No terms of CP's GTC are accepted unless the retailer has decided otherwise in writing. (3) The CP must not pass on the performance of duties to a 3 rd party, unless he/she has gained the retailer's written agreement. (4) All changes to the GTC must be stated in writing.
3. Delivery <i>Risks: 2,3</i>	(1) Delivery dates are fixed and must be strictly complied with.

	<p>(2) The CP must immediately inform the retailer in case of any delivery disruptions, potential delay, cause of disruptions and the next possible delivery dates.</p> <p>(3) The retailer may claim damages of up to 5% of the net price of the missing delivery in addition to its right for compensation.</p> <p>(4) The CP must stock product deliveries for up to 10 retail outlets.</p>
4. Warranties <i>Risks:1,2,5</i>	The CP guarantees that:
	<p>(1) The products conform to all legal and retailer specifications;</p> <p>(2) The products conform in composition, packaging and labelling to the latest legal requirements for German and all other destination markets;</p> <p>(3) The products do not infringe any 3rd party rights. In case the CP infringed 3rd party rights, he/she is responsible to free the retailer from any claims for damages or compensation immediately.</p> <p>(4) The retailer will practice due diligence and notify the CP (orally or in writing) immediately [within two weeks] of any infringements.</p> <p>(5) The CP cannot claim the retailer to deficiently practice due diligence if the deficiencies discovered were known to them or could have been overlooked by them only in case of culpable negligence.</p>
5. Pricing <i>Risk:4</i>	Prices agreed in framework contracts are fixed maximum prices valid for the duration of the contract [typically one year].
6. Claims for Damages, Recall, Compensation <i>Risks:1,2,5</i>	<p>If the product quality does not meet legal or retailer requirements, the retailer can demand:</p> <p>(1) Supplementary performance,</p> <p>(2) Rectification of defects,</p> <p>(3) Compensation deliveries,</p> <p>(4) Removal of products (at CP's expense).</p> <p>If the CP does not perform, the retailer will remove the delivery at the expense of the CP. If the product delivery is deficient, the retailer may demand full refund of already delivered and paid products, as well as any other product delivered by that supplier. The CP must protect the retailer from any claims for damages from 3rd parties caused by the CP's products.</p>
7. Contracting Alternative Suppliers <i>Risks: 1,7</i>	<p>(1) To sub-contract any contractual duties towards the retailer, the CP must gain the retailer's written agreement.</p> <p>(2) If the CP intends to switch suppliers or any sub-contractors of any ingredients for a product supplied to the retailer, the CP must inform the retailer within seven working days and await the retailer's agreement.</p>
8. Crisis Management <i>Risks: 1,7</i>	<p>Crisis management, recall and public warning, damage claims and compensation for image damages</p> <p>(1) The CP guarantees maintaining a functioning crisis management system (CMS). This CMS must define the responsibilities, communication flow and contact details [24/7] within the company to guarantee correct crisis management. The retailer must receive all contact details of the company's crisis manager(s).</p> <p>(2) If product recalls do not affect retailer-brand products, the manufacturer must inform the retailer's buying department in writing immediately of the affected products and the reason for recall. The CP must cover all recall costs, including disposal, payment for substitute products and compensation to the retailer.</p> <p>(3) The CP must manage all aspects of the recall.</p> <p>(4) If public authorities reasonably claim that a product poses health risks, the retailer may refrain from any future transactions with the CP and the CP will be responsible for removing all ordered and/or delivered products. The same applies if the health risks are alleged and not yet confirmed but are reported by the media.</p> <p>(5) For every product recall due to product deficiencies, the CP owes the retailer a lump-sum amount of EUR 25 per retail outlet.</p>

	(6) In case of public product recalls authorized by public authorities, the CP owes the retailer a lump-sum payment for damages to reputation of EUR 100,000. This fee is only waived if the product deficiencies are not attributable to a fault of the CP or their sub-contractors.
9. Product Quality, Composition, Documentation <i>Risks: 1,2,5</i>	(1) The retailer imposes strict product specifications. Product quality is tested systematically by independent laboratories and retailer-internal sensory examinations. (2) The retailer reserves the right to conduct CP audits themselves or instruct 3 rd party audits. (3) The retailer directs attention to product category related quality standards. I.e., in the case of fruit/vegetable supplies, the retailer accepts a maximum of 70% of the legally permitted Maximum Residue Levels (MRLs). For the retailer's own brand, the retailer accepts maximum residue levels of 50% of those legally permitted in Germany. To monitor the MRL, the retailer runs a proprietary database, where all values are plotted and serve as a rapid alert system. (4) The CP guarantees that all products comply with the national food requirements of the destination market; if no specific market is identified, the German regulations apply. (5) The CP guarantees that all products delivered to the retailer comply with the German requirements outlined in the Lebensmittel- und Futtermittelgesetzbuch (LFGB); the Rückstandshöchstmengenverordnung (MRL regulations) and all other food regulations and competition law. All relevant products must meet the safety requirements of VDE-TÜV-GS-CE. (6) 1 st , 2 nd and 3 rd party inspections: The retailer may engage in product inspections at any time or assign a 3 rd party to carry out the product inspections. Raw materials used in the final product may be inspected separately. The CP is exclusively responsible for any product or raw material deficiencies identified by the retailer or another inspecting authority. Therefore, the CP must demonstrate constant product quality inspections himself at their own sites and those of their suppliers.
10. Compliance with Social, Ethical, Environmental Standards and Quality Management Systems <i>Risk: 6</i>	The CP must ensure that all suppliers and sub-contractors comply with BSCI standards: 1. <i>Legal regulations</i> : laws, regulations and industry standards must be met. 2. <i>Freedom of Association & Right to Collective Bargaining</i> 3. <i>Prohibition of discrimination</i> 4. <i>Remuneration</i> 5. <i>Working Hours</i> 6. <i>Health and Safety at the Workplace</i> 7. <i>Prohibition of child labour</i> 8. <i>Prohibition of certain disciplinary practices</i> 9. <i>Prohibition of forced and compulsory labour</i> 10. <i>Environmental and safety concerns</i> 11. <i>Management systems</i>
11. Product Liability & Insurance <i>Risks:1,2,7</i>	(1) The CP is liable for any product defects, covering all product recall cost. (2) The CP must provide the retailer with <i>extended</i> product liability insurance within four weeks, covering a minimum of EUR 2.5 million.
12. Property Rights <i>Risk: 5</i>	(1) The retailer retains property rights over any documents, calculations and pictures. No 3 rd party may see or access these materials without the retailer's written consent. (2) Reservation of proprietary rights: The retailer owns all products, even in case of recall, until all payments are fulfilled by the CP. The CP frees the retailer of any claims for damages, product liability, claims of material defects and compensation for personal suffering from 3 rd parties, when the cause for the claims lies with the CP or any of their sub-contractors.

13. Transportation and Packaging <i>Risk: 2</i>	<ul style="list-style-type: none"> (1) The CP conforms to the "Grüner Punkt" [recycling policy] packaging requirements. (2) The CP is liable for any deviations from EU or German packaging regulations. In case of infringement, the CP takes full responsibility and frees the retailer of any claims. (3) Packaging disposal: The CP refunds the retailer for disposing of the transportation packaging.
14. Traceability <i>Risks: 1,2,6</i>	<ul style="list-style-type: none"> (1) The CP guarantees continuous and full traceability of all products, ingredients and packaging according to EG Nr.178/2002 and any future regulations. All ingredients (raw materials, additives, preservatives, aromas and flavours) must be traceable. Traceability documentation must specify the time, location and used packaging materials. (2) The CP must provide all information to the buyer and/or the authorities if requested, such as in the case of customer complaints or any objections raised by authorities.
15. Information Clause <i>Risks: 1,2,6</i>	<ul style="list-style-type: none"> (1) The CP informs the retailer immediately if 'Stiftung Warentest' or 'Öko-Test' claim any product deficiencies. (2) The CP must use the retailer's joint database to share product data.
16. Force Majeure (FM) <i>Risk: 8</i>	<ul style="list-style-type: none"> (1) FM frees both parties of any duties for the time of the incident. Both parties must inform each other to the best of their ability of the time, nature, scope and duration of the incident and to adapt their contractual responsibilities to the best of their knowledge and in good faith. (2) The retailer may reject any orders if the FM incident caused decreased demand. (3) This clause does not affect the retailer's other contractual rights.
17. Customer Data <i>Risks: 5</i>	<ul style="list-style-type: none"> (1) The CP guarantees compliance with all German data protection regulations. (2) The CP guarantees the protection of any confidential documents exchanged as part of the agreement. (3) The CP guarantees the retailer or a 3rd party assigned by the retailer to inspect its data protection measures at least annually. In case of non-compliance, the CP must pay minimum damages of 0.15% or maximum damages of 5% of the annual contract volume.
18. Severability Clause <i>Risk: 10</i>	<p>Waiving one or more clauses does not affect the validity of the GTC as a whole.</p>
19. Termination <i>Risk: 9</i>	<p>The retailer may terminate contracts immediately if the CP: (a) breaches the contract; or (b) is subject to insolvency.</p>
20. Confidentiality <i>Risks: 5,7,10</i>	<ul style="list-style-type: none"> (1) Both parties agree to keep trade secrets confidential. (2) The CP must not share trade secrets originating from contracting with the retailer to any CPs, with the exception of the information necessary for a 3rd party to complete its business. (3) The CP agrees to return any documentation from engaging with the retailer to the retailer as soon as the contract expires. Data storage media must be destroyed using the CP's data eraser programs. (4) The CP is liable for any damages resulting from disclosing trade secrets or data originating from exchanges with the retailer. The CP is liable for the acts of his employees, subcontractors, other CPs and freelance contractors.
21. Court of Jurisdiction <i>Risk: 10</i>	<ul style="list-style-type: none"> (1) Exclusive court of jurisdiction is the German court of 'Town x'. The retailer reserves the right to sue the CP at his local venue. (2) The contract is subject exclusively to the law of the German Federation, excluding the provisions of the United Nations Convention on Contracts for the International Sale of Goods, CISG.

Table 7.2 illustrates how GTC clauses facilitate dealing with risk: (1) GTC limit variability in interactions by *excluding other options apart from the one option preferred by the retailer* (such as the court of jurisdiction; MRLs; applicable industry standards; procedures for data protection). (2) GTC *identify potential outcomes* associated with non-compliance with the retailer's specifications (such as product recall due to product deficiencies; third-party rights infringement). (3) GTC define a 'liability regime' (ID 15) that effectively transfers impact to the CP (such as payment for reputational damages; compensation for product recalls).

Moreover, the table illustrates that GTC may offer more than one clause to address risks. For example, variability in product quality is one of the retailers' main concerns and is addressed in the sections:

1. *Scope of application* (limiting product quality variability by demanding exclusive compliance with retailer's specifications);
3. *Warranties* (specifying CP guarantees in case of non-compliance)
6. *Claims for damages, recall and compensation* (transferring the impact of product safety and quality risk to CP)
7. *Contracting alternative suppliers* (limiting product quality variability by limiting the CP's (sub-)contracting options)
8. *Crisis Management* (limiting impact by limiting variability in product recall response)
9. *Product quality, composition and documentation* (limiting product quality variability by specifying retailer's product quality specifications; provision for first, second and third-party inspections)
11. *Product liability and insurance* (transfer liability for product quality variability)
14. *Traceability* (limiting impact and re-occurrence of product quality variability)
15. *Information clause* (limiting impact of product quality variability through early response and data sharing in the retailer-database).

Using GTC, the issuer can create a 'liability regime' that standardizes interactions and transfers risk impact serving "the principle of protecting your own resources" (ID 20).

7.6 Monitoring and enforcing GTC

GTC include clauses for monitoring and enforcing compliance through legal and non-legal sanctions, which may take effect beyond the retailer's direct relationships. Monitoring involves *direct and indirect inspections* performed by the retailer or third-party auditors at the manufacturer's and their sub-contractor's sites (see Table 7.2, Clause 9). Moreover, retailers

can request regular supplier's verification of sub-contractor auditing. A quality manager at a poultry supplier describes direct retailer audits by Beta and Delta as:

“...pickier than the IFS audits... Beta has the right to come at any day or night time! They do the audit, write an audit report and give you some deadlines and what they think you must improve. In response, we write a statement about how we will address it. Usually, they will come unannounced again to check if we did what we said [...] Beta focuses on auditing its direct suppliers...but Delta is known to go visiting its suppliers' suppliers, too. If Beta wants to know how sub-suppliers perform, they ask us to do it and forward the audit and test results to Beta” (ID 14).

In response to the retailer's GTC requesting suppliers to audit sub-contractors, a major German meat manufacturer, Xion, incorporates the retailer's request into its own GTC, stating that:

“§8. Quality Assurance and Audits. *Xion has the right to conduct on-site audits at the contracting party's sites with prior announcement and within the supplier's regular working times...*

In addition to on-site inspections, Beta requests that its contracting parties perform 'social-audits' at their own and sub-contractor's sites to verify compliance with the 'Beta Code of Conduct', which draws on the BSCI requirements. This requirement is present in Beta's and Xion's GTC, with the latter stating:

“§2. BSCI Standards and Animal Welfare. *For all Xion suppliers and sub-contractors, the latest version of BSCI standards applies. The supplier must accept and implement the standard at site. The supplier must be able to verify compliance with BSCI standards, possibly through Xion on-site audits.”*

In addition to direct monitoring, retailers and manufacturers rely on IFS third-party audits for indirect monitoring. The IFS Food Version 6 includes 'compliance with customer' [i.e., retailer] specifications as a 'knock-out criterion', resulting in immediate certification failure in case of non-compliance.

The effectiveness of (in-) direct monitoring depends on the activation of *legal and non-legal sanctions* in case of detected non-compliance. A senior member of the IFS Sanctioning Committee highlights the importance of sanctions by stating that:

“Part of adequate control is consistent sanctioning in case of non-compliance...If you do not sanction breaches, with measures that have been known to other parties in advance, you devalue the rules and undermine trust created in that framework of rules” (ID 13).

Legal sanctions refer to the mobilization of punitive actions through (inter-) national legal authorities, such as issuing formal inspections by food authorities or litigation. Legal sanctions typically result in requests for compensatory payments or immediate annulment of contracts.

However, due to public exposure in litigation cases and absence of tailored solutions, hardly any breaches of GTC are sanctioned with litigation (ID 21). Instead, both parties rely on the 'looming potential' of legal sanctions and in fact invoke non-legal sanctions that may involve product delisting, payment of additional fees or suspension from future business. The actual exercise of sanctions in German food retailer-manufacturer interactions depends on relative bargaining power:

"It is the practical market power deciding who sanctions and how. Mostly, these are the retailers and they don't even necessarily look into their GTC or contracts to issue sanctions. They simply rely on saying: 'You will do this and that now, if you want to keep in business with us. You must take the recalled products back at your own cost and dispose of it. Then you give us free of charge substitute deliveries if you want to continue business.'... Any kind of litigation would only harm the relationship and image of some company and in the end, possibly only produce a request for fines or contract termination. An internal way of sanctioning is more pragmatic. For many suppliers, one retailer can be a major source or even the only source of revenue. They really will do anything to preserve that relationship. And big retailers know that" (ID 12).

Clauses specifying non-legal sanctions are transferred by manufacturers to sub-contractors in a similar way to other GTC clauses. For example, meat manufacturer Xion states in its GTC that in case of delivery delays, Xion can demand "compensation of 0.1 % of the delivery value per day of delay but not more than up to 5% of the delivery value...and in the case of a supplier not meeting the guarantee of delivering products according to Xion product specifications, Xion may demand compensation of 5% of the delivery value. This payment does not exclude Xion from the right to issue further claims for compensation" (Xion GTC, 2013). The relatively lower compensatory payments specified by Xion demonstrate on the one hand Xion's relative bargaining power towards its suppliers and on the other hand, the relatively high claims issued by retailers, reaching up to 20% of a delivery's value. Xion's GTC largely replicate the GTC of its major competitor in the German meat manufacturer market.

7.7 Dissemination of GTC

Three clauses ensure that the GTC become the exclusive basis for interaction in direct *and* indirect food retailer-manufacturer relationships:

- (1) The "*General Regulations*" or "*Scope of Application*" clause typically specifies that the issuer's (typically the retailer's) GTC are the exclusive basis for interaction and no changes are valid without the issuer's written consent. This clause automatically annihilates any CP's GTC and ensures the issuer's control over changes.
- (2) Clauses specifying '*Product quality and inspections*' ensure GTC dissemination beyond direct interactions, because the issuer demands rights for unannounced audits at the

CP's and all sub-contracting parties' sites. The direct contracting party typically 'copy-pastes' the issuer's GTC into its own GTC exchanged with its sub-contractors.

(3) GTC clauses requesting IFS certification draw on 3rd party auditors to ensure that the direct CP and its sub-contractors comply with the issuer's GTC. This is because compliance with customer specifications (i.e., the retailer's GTC) is one of the 'IFS knock-out criteria' resulting in immediate certification failure in case of detected non-compliance.

The greater the issuer's bargaining power vis-à-vis its CPs, the greater tends to be its capacity to use its GTC without adaptation across a high number of direct and indirect interactions. The reach of GTC is *not* defined by geographical boundaries, but by the issuer's relative power and the location of its direct and indirect CPs.

7.8 Changes to GTC

Dealing with risks that may originate from geographically dispersed interactions requires retailers and manufacturers to learn from experience and adapt to changes in food technology, legal regulations and consumer preferences. One of the most important characteristics of using GTC for dealing with risk in business interactions is the *efficiency and immediacy* with which changes are administrated: *Unilaterally* adapting, deleting or adding clauses or attachments without affecting the remainder of the document (due to the severability clause) make GTC a flexible, yet stable set of regulations. Moreover, given the in-built mechanisms for GTC dissemination, the changes become effective immediately throughout the issuer's focal network.

Typically, changes to GTC are issued in response to:

- a) Negative experience with clauses in the current version of GTC;
- b) Precedent cases, which have affected (or have the potential to affect) a considerable number of industry actors;
- c) Changes to legal regulations;
- d) Changes to market and consumer preferences.

7.9 Benefits and limitations of using GTC for dealing with risk

GTC offer retailers and manufacturers two benefits in dealing with risk: First, GTC link *industry standards* and *contract terms*. Cross-referencing industry standards such as the IFS or BSCI reduces variability in food processing, manufacturing, distribution and final product outcomes, and renders compliance with standards legally enforceable *regardless of a supplier's location, local jurisdiction and business customs*. Moreover, the issuer relies on monitoring and sanctioning specifications stated in the GTC and the IFS infrastructure to ensure *direct and indirect parties' compliance with GTC*. Although contract agreements override GTC, the GTC provide a vital body of *default regulations*: If contracts fail to specify a clause or it is deemed

ambiguous, the parties can resort to GTC. This is vital when retailers and manufacturers interact beyond the confines of the German market, as the issuer can specify which jurisdiction applies and GTC take precedent over otherwise applicable law. Second, GTC allow retailers and manufacturers to create a private, standardised 'liability regime' that regulates multiple direct and indirect interactions, despite jurisdictional contradictions or loopholes. For instance, while the EU Reg. 189/2002 requires limited traceability, which challenges efficient hazard identification and recall, retailers' GTC require 'full traceability' of all ingredients and packaging materials.

However, using GTC as privately agreed 'liability regimes' raises at least three concerns: While GTC facilitate transferring risk impact *de-jure*, this may not reflect the actual capability of the contracting party to effectively bear the impact. While *de-jure*, the party receiving the GTC has the right to dissent, this rarely occurs in German food retailer-manufacturer interactions: Due to retailer consolidation, there are few alternatives. Moreover, retailers' GTC *hardly differ* and anecdotal evidence suggests that suppliers may become 'blacklisted' following attempts to re-negotiate retailer's GTC. A former quality manager at a German poultry manufacturer refers to the retailers' practice of using GTC to transfer risk liabilities as the '*Persilschein*', which

"is a kind of guarantee-for-everything. They want a 100% guarantee that the products will forever be free from dioxin, GMO, pesticides, etc. Sometimes, you cannot even really guarantee what they want!" (ID 14).

7.10 Conclusion

This chapter has examined how German food retailers and manufacturers use GTC for dealing with risk in direct and indirect interactions. Drawing on original GTC, this chapter demonstrates that across food retailers and manufacturers, GTC are highly similar, which facilitates dealing with risk by: (1) limiting variability in interactions across geographically dispersed direct and indirect actors; and by (2) defining a 'liability regime' that transfers risk impact from the issuer to the receiver of GTC. The strength of GTC rests in the parsimony of GTC content, efficient dissemination and unilateral adaptation.

CHAPTER 8

DEALING WITH RISK: THE USE OF FRAMEWORK CONTRACTS

CHAPTER 8. DEALING WITH RISK: THE USE OF FRAMEWORK CONTRACTS

8.1 Introduction

This chapter reports how retailers and manufacturers use framework contracts for dealing with risk in direct interactions. Framework contracts are a mutually negotiated record of agreed rules for guiding repeated future interactions. In contrast to GTC, terms are *mutually negotiated* and offer a platform for dealing with risks *specific* to the direct relationship.

This chapter starts with stating the legal standing of framework contracts and then draws on a sample of two representative framework contracts between retailer Gamma and Manufacturer-M2 and between Manufacturer-M2 and Supplier-S2.2 to report the content and use of framework contracts. The chapter examines how actors monitor, sanction and negotiate changes to framework contracts, and closes with an evaluation of the benefits and limitations of using framework contracts for dealing with risk in direct relationships.

8.2 Legal standing of framework contracts

In contrast to GTC, framework contracts are not regulated by the “Bürgerliches Gesetzbuch” (BGB). Instead, framework contracts are subject to general freedom of private contract law that is codified in German constitutional law (Grundgesetz der Bundesrepublik Deutschland, GG). The use of framework contracts in business-to-business interactions is hardly regulated regarding content and form. Contractual freedom is granted if the clauses do not infringe legal regulations such as the German food law, or are subject to unconscionability. Unconscionability refers to unfair terms clearly favouring one party and may render a contract void. As the term indicates, framework contracts provide a ‘*frame*’ for future transactions, which are then further detailed in additional ‘transaction contracts’, specifying product, volume, delivery schedules, pricing and payment requirements.

8.3 Business actors

This section offers a simplified illustration of actors involved in using framework contracts. Figure 8.1 illustrates the use of framework contracts in two sets of retailer-manufacturer interactions: between retailer Delta and manufacturer-brand manufacturer-M1 and between retailer Gamma and retailer-brand manufacturer-M2. In the case of M2, it was possible to access the framework contract negotiated between M2 and supplier S2.2, who provides ingredients that M2 needs for Gamma’s retailer-brand products. This sample of framework contracts is chosen because it is illustrative of the framework contracts used across German retailer-manufacturer interactions.

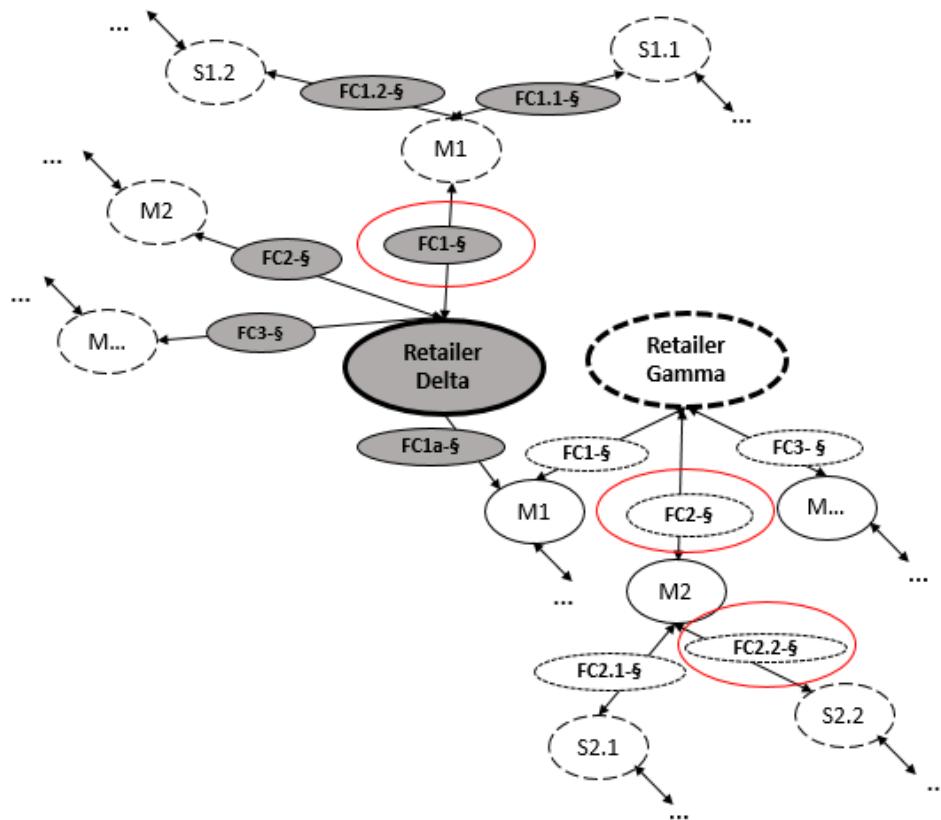


Figure 8.1. Framework contracts in retailer-manufacturer interactions.

Despite the freedom to customise framework contracts, the sample retailer-manufacturer and manufacturer-supplier contracts are still characterised by high similarity: Due to asymmetric bargaining power, most framework contracts reflect the retailer's preferences and leave limited scope for mutual retailer-manufacturer negotiations. Since most retailers' key interests regarding liabilities, product specifications or payment terms are similar and, additionally, the drafting process is frequently completed by the *same lawyers* specializing in food retailer-manufacturer relationships, framework contracts tend to be standardised. Moreover, framework contracts become highly modularised by using references to industry standards such as the IFS. In fact, one of the consulting lawyers to German food retailers observes that high standardisation of framework contracts leads to their replacement with GTC:

"In practice, 'framework contracts' consist in our context [of food retailer-manufacturer relationships] of pre-defined clauses, and because retailers do not tolerate much change, these clauses tend to be preserved. Framework contracts become like GTC. I know of buyer-supplier relationships who waived framework contracts and now rely only on GTC and transaction contracts" (ID 13).

Similar to the manufacturer's use of retailers' GTC, manufacturers 'copy and paste' several of the retailers' clauses to include in their own 'framework contracts', which results in further

standardization of contracts in direct and indirect interactions. Yet, as is evident in the following section, framework contracts remain more detailed in addressing *idiosyncratic issues* in direct retailer-manufacturer relationships.

8.4 Content of framework contracts

Framework contracts typically span twelve to twenty pages and are included in a document-set that comprises insurance policies, certification confirmation (typically IFS), proprietary product specifications and transaction contracts.

Framework contracts must be *written*, as in some jurisdictions written contracts are a necessary requirement for a business relationship to exist in legal terms:

"The written form is indispensable, because it is the only way to prove at a later stage, what both parties actually agreed to...Writing down requirements such as product specifications in as much detail as possible is crucial to make the contracting party's performance measurable. With product specifications, you can define what attributes the product must have, what laboratory tests must be met etc. ...Apart from that, if you wrote it down once, you can spread and adapt the specifications to an almost unlimited number of partners much easier" (ID 13).

Moreover, the importance of the written form ['Schriftlichkeitsprinzip'] is manifested in the 'Written Form Clause' ['Schriftformklausel'], which states that any changes must be made in writing.

Apart from clauses negotiated within a specific direct relationship, framework contracts include references to industry and retailer specifications: Drawing on established 'industry standards', both parties make use of *modular contract clauses* (referred to as '*building blocks*' by one of the respondents) to save time and cost. Moreover, modular clauses facilitate *standardising* high numbers of agreements and respective interactions, which translates into limited variability in multiple, future interactions:

"A retailer who orders the same product from five different manufacturers must ensure that each manufacturer delivers exactly the same quality. That is why food standards like the IFS have such a tremendous focus on compliance with product and process quality requirements, and also check for compliance with a retailer's own specifications, which they typically clip on to contracts. They build a contract by using a set of building blocks: For example, if you want to regulate social issues, you take the 'BSCI building block'. With 'BSCI' comes a whole system of regulations, audits, certification. For example, you have BSCI regulations for maximum working hours, which must not exceed 60 hours per week. All this comes with putting in just one 'building block': 'BSCI'" (ID 13).

Table 8.1 offers an abbreviated sample framework contract³³ negotiated on March 25, 2011 between retailer Gamma and manufacturer M2³⁴ for the supply of retailer-brand products. The contract remains valid to date. The retailer's bargaining power is evident in the distribution of liabilities and the fact that *all* retailers' framework contracts analysed for this research bear the *retailer's* logo exclusively, on the first contract page.

To facilitate comparison of how GTC and framework contracts are used for dealing with risk, the left column in Table 8.1 denotes risks addressed in respective clauses. A list of relevant risks was presented in Chapter Seven, Section 7.5.

Table 8.1. Retailer-manufacturer framework contract³⁵.

Framework Contract [RETAILER LOGO] For Retailer-Brand Products Between [M2] and [Gamma] Preamble	
<p>Retailer Gamma contracts M2 for exclusive manufacturing of retailer-brand and retailer-exclusive products. M2 is the producer and bears all legal responsibilities and product liabilities for the products manufactured for the Gamma Group.</p> <p><i>Retailer-brand products</i> refer to products bearing a label belonging to the Gamma Group. <i>Retailer exclusive products</i> are such products, which bear a label belonging to the manufacturer, but which are exclusively available to the Gamma Group.</p> <p>This framework contract does not oblige Gamma to place any orders. This is subject to additional ordering agreements. To regulate the principles for interaction – which are valid independently of individual ordering agreements – both parties have agreed to the following:</p>	
I. <i>Risks</i> 1,7	Manufacturer's production <p>The manufacturer guarantees that contracted products are exclusively of their own production. The manufacturer must inform Gamma proactively of all changes at its production sites.</p> <p>Transfer of production responsibilities to third parties is only permissible with Gamma's written consent. The manufacturer remains fully liable to Gamma for all contractual duties: It is the manufacturer's responsibility to ensure that a third contracting party complies with all terms agreed between Gamma and the manufacturer in the framework contract, the ordering agreement and product</p>

³³ The sample contract is chosen because it is representative of framework contracts analysed for this research, including those of retailers Beta and Delta. The latter only show minor differences regarding 'alternative dispute resolution' and 'crisis management' clauses, which are revisited later.

³⁴ It is worth highlighting that framework contracts typically include an insurance policy confirmation letter. However, as mentioned by several respondents, insurance policies have limitations, because "they cover a very specific set of events. It is good, if something happens that it fits with the insurance specifications of the event. But sometimes, things happen in a different way and the insurance will not cover" (ID 21).

³⁵ The original contract is in German and has been translated into English by the researcher.

	specifications. To ensure third party compliance, the manufacturer must regularly inspect their production sites. Gamma has permission to inspect the manufacturer's production sites. § 831 ³⁶ applies to the interactions between Gamma, the manufacturer and any involved third party.
II. <i>Risks 1,5,7</i>	Gamma's product specifications <ol style="list-style-type: none"> 1. The quality requirements for products, including packaging, product characteristics, analytical values etc., are developed by the manufacturer and Gamma and are recorded in Gamma's product specifications (from now on referred to as 'specifications'). The manufacturer is responsible for compliance with specifications for every product supplied to Gamma prior to the first delivery to Gamma by contacting Gamma's Quality Assurance Division. 2. Any changes to specifications must demonstrate Gamma's prior written agreement. 3. Product specifications are classified as a Gamma trade secret. The manufacturer guarantees handling product specifications with the utmost confidentiality. Any copies (including fractions of the document) and any dissemination to third parties are strictly forbidden. The only exception is the use of specifications by the manufacturer's employees in administering the manufacturing process. The manufacturer must inform their employees of strict confidentiality.
III. <i>Risks 1, 2, 10</i>	Legal compliance <ol style="list-style-type: none"> 1. The manufacturer guarantees that products fully comply with the specifications and prototypes. [...] 2. If no product specifications are agreed, the manufacturer guarantees full compliance of all product features (including ingredients, packaging, labelling etc.) with German legal requirements. The product must be marketable on the German or alternative market (see XV of this agreement).
IV. <i>Risks 1, 2, 10</i>	Genetically modified organisms <ol style="list-style-type: none"> 1. The product manufacturing for Gamma must be performed in such a way that no indication of potential use or residues of GMO must be indicated on the packaging. The requirements must comply with EU Reg. 1829/2003 and EU Reg. 1830/2003 regarding labelling and traceability of GMO in food and feed. 2. The use of GMO is only permissible in individual cases with written agreement obtained from Gamma's Chair of the Board of Directors responsible for the strategic purchasing.
V. <i>Risks 1, 2</i>	Quality assurance <ol style="list-style-type: none"> 1. The manufacturer must comply with all product and process specifications and ensure the quality of all aspects of production – including packaging - by constantly updating internal quality assurance and monitoring processes (including chemical analyses, sensory tests, physical-technical and application tests) at their own expense. The manufacturer must inform Gamma (Quality Assurance Division) of the extent, type and frequency of quality assurance and monitoring measures at any time.

³⁶ The § 831 of the BGB regulates the liability for vicarious agents and specifically includes two relevant articles:

"(1) A person who uses another person to perform a task is liable to compensate for the damage that the other unlawfully inflicts on a third party when carrying out the task. Liability in damages does not apply if the principal exercises reasonable care when selecting the person deployed and, to the extent that he is to procure devices or equipment or to manage the business activity, in the procurement or management, or if the damage would have occurred even if this care had been exercised.

(2) The same responsibility is borne by a person who assumes the performance of one of the transactions specified in subsection (1) sentence 2 for the principal by contract."

	<p>The manufacturer must obtain certification from a Quality Assurance Programme recommended by Gamma (the IFS). The manufacturer must inform Gamma immediately of the manufacturer's certification results and offer unlimited access to unabridged audit reports.</p> <p>The manufacturer bears all cost for external laboratory analyses. If Gamma contracts laboratory tests for a manufacturer's product and the results deviate from agreed product specifications, the manufacturer bears all costs for the tests and all remedial actions. For further details, the agreement from annual negotiations must be consulted.</p> <ol style="list-style-type: none"> 2. The manufacturer must inform Gamma (Quality Assurance and Purchasing Division) immediately in case of any internal or external incidents that may affect the product's compliance with specifications. The manufacturer must inform Gamma of any inspections or notifications by governmental food inspection authorities, even when the notifications obviously do not have any factual/objective grounds. 3. The manufacturer must inform Gamma of any cases where the manufacturer encounters requests for information regarding the contracted products on the grounds of the freedom of information law, consumer information law or environmental laws. In all these cases, the manufacturer must provide Gamma the opportunity to co-develop the statement to public/governmental authorities, third parties, etc. 4. Gamma's appointed third parties or employees have the right to inspect the manufacturer's production sites, including quality assurance and monitoring processes, and to take any product and ingredient samples. 4. The manufacturer must grant access to Gamma, third parties nominated by Gamma and governmental authorities to the manufacturers' documentation of laboratory tests, quality assurance measures and internal monitoring measures.
VI. <i>Risks 1, 7</i>	<p>Traceability</p> <ol style="list-style-type: none"> 1. The manufacturer guarantees continuity and completeness of traceability regarding its products and all ingredients. Traceability must comply with EU Reg. 178/2002 and future governmental regulations. In addition to product traceability, the manufacturer must fully trace all used materials (ingredients, raw materials, supplements), production times, packaging materials and manufacturing steps. The manufacturer must provide Gamma on request (i.e., a food inspection authority's request; consumer complaints) with all necessary information immediately. 2. For traceability, the manufacturer must report to Gamma: product batch identification, scope and volume of affected batches, who (store, warehouse) received affected batches.
VII.	<p>Information duties</p> <ol style="list-style-type: none"> 1. The manufacturer must inform Gamma (Purchasing and Quality Assurance Division) immediately of any regulatory changes or other regulations (i.e., DIN Norms, Recommendations of Industry Associations) affecting the contracted products. 2. If the product specifications include a competing manufacturer-brand product as a reference, it is the manufacturer's duty to monitor any changes in the composition of the competing manufacturer-brand product (i.e., recipe, labelling, and packaging). If the manufacturer notices any changes and identifies the need for adapting the product specifications to match the new product benchmark, the manufacturer must inform Gamma immediately to arrange for necessary adaptations. It is the manufacturer's duty to suggest changes to meet the competing product characteristics.
VIII.	<p>Contract penalties</p>

<i>Risks 1, 2, 3</i>	<p>1. The manufacturer guarantees in any of the following cases affecting deliveries to Gamma to pay Gamma 50,000EUR:</p> <ul style="list-style-type: none"> a) Non-compliance with product specifications or other agreed benchmarks; b) Deliveries contain GMO (breaching clause IV); c) Deliveries do not comply with governmental regulations (breaching clause II). <p>The manufacturer may avoid the penalty if he can prove within a specified timeframe that any of the above situations was not his fault.</p> <p>2. Product specification requirements are classified as 'not met' if the mean value of at least three product samples from one batch does not meet the requirement. Sampling and product testing must be performed by an independent laboratory nominated by Gamma.</p> <p>3. The contract penalty applies once per defect product batch.</p> <p>4. Gamma's right to claim compensation remains valid in addition to VIII (1). Gamma may add another penalty fine to the contractual penalty stated in VIII (1).</p>
IX.	<p>Compensation</p> <p>Apart from other compensation claims that Gamma may raise due to deficient deliveries, the manufacturer must cover all costs arising from product incidents noticed by inspection authorities, including any administrative offences or prosecution. This includes all recall and legal costs (payment of damages, compensation and fines, see §153 Strafprozessordnung, StPO).</p>
<i>Risks 1, 2</i>	<p>Product liability</p> <p>1. If Gamma faces third party claims regarding contracted products, it guarantees to forward the claim to the manufacturer. The manufacturer must explain within ten working days if it can defend Gamma against the claim(s).</p> <p>2. If Gamma has any reason to recall products, the manufacturer bears all costs.</p>
<i>Risks 1, 2</i>	<p>Packaging</p> <p>1. Product and transportation packaging must comply with all legal regulations, including the regulations for utensils and contact materials³⁷.</p> <p>2. The manufacturer must co-ordinate the ordering of the volume of packaging material with Gamma. Gamma bears the liability for the packaging material. If the contract ends, Gamma compensates the manufacturer for remaining packaging. The manufacturer must return packaging materials to Gamma or dispose of the packaging material at Gamma's expense.</p> <p>3. The use of any disposal schemes for the packaging materials is Gamma's responsibility. [...]</p>
<i>Risk1</i>	<p>Stiftung Warentest/Ökotest</p> <p>In case that Stiftung Warentest or Ökotest rate any of the contracted products negatively, with a 'satisfactory' or lower rating, Gamma may remove the product from the shelves at the manufacturer's expense.</p>
<i>Risk3</i>	<p>Supply and distribution</p>

³⁷ There are currently thirteen regulations regarding packaging materials that manufacturers must comply with, including the EU packaging framework regulation EU Reg. 1935/2004; the EU plastics regulation EU Reg. 2002/72; the EU migration regulation EU Reg. 82/711; EU regulation on testing migration of plastic materials in contact with foodstuffs EU Reg. 85/572; Good Manufacturing Practice regulation 2023/2006; as well as a number of packaging standards including IFS Pac.

	<ol style="list-style-type: none"> 1. Retailers of the Gamma Group will order the products from the manufacturer directly. Gamma nominates eligible retailers. The manufacturer guarantees that products are delivered exclusively to nominated Gamma retailers. 2. Gamma also signs this agreement on behalf of the nominated retailers [...].
XIV. <i>Risks 1,2,10</i>	<p>Gamma Retail Group</p> <p>[This section lists all legal entities constituting the Gamma Retail Group]</p>
XV. <i>Risks 1,2,10</i>	<p>International distribution</p> <p>This agreement equally applies to all deliveries to international markets. If the legal regulations for the manufacturer's product differ from German regulations, the manufacturer is liable for complying with those regulations once Gamma notifies the manufacturer that products are intended for that market.</p>
XVI. <i>Risks 9</i>	<p>Contract duration</p> <ol style="list-style-type: none"> 1. This contract is valid from the time both parties signed the contract and remains valid for an indefinite time. The contract can be terminated by either party with an advance notice of three months prior to the end of each calendar year. 2. Contract termination must be performed in writing and sent as a registered letter with reply notice. 3. The right for contract termination for significant reasons with immediate effect remains valid. Significant reasons include on the part of Gamma the non-compliance of deliveries with agreed product specifications; the acquisition of the manufacturer by another organization; manufacturer's insolvency; public disreputability of the manufacturer's product or the manufacturer's company (for instance caused by negative test results published by Stiftung Warentest or Ökotest). 4. Gamma may refrain from ordering products from the manufacturer at any time if the manufacturer does not comply with any requirements of this agreement. 5. This framework agreement remains valid regardless of any letter of termination until all placed orders are completed.
XVII. <i>Risk 5</i>	<p>Confidentiality</p> <ol style="list-style-type: none"> 1. Both parties agree to absolute confidentiality regarding the content of this and any following agreement. <p>The manufacturer must handle all content confidentially and not grant access to third parties, especially the media. The manufacturer may grant access to this information only to employees who administer necessary steps in delivering the product to Gamma. These employees must guarantee confidentiality prior to being handed relevant information. This process must be documented.</p> <ol style="list-style-type: none"> 2. 'Confidential information' includes: all information, data and documents from and about companies belonging to the Gamma Group, about the manufacturing and delivery agreements. This information may take any form, including written and verbal communication, it may be stored on devices and it may or may not be classified as 'confidential'. <p>Non-confidential information must verifiably fall into one of the following categories:</p> <ol style="list-style-type: none"> a) Information, which is at the time of publication already publicly available or information which becomes public without the manufacturer's interference; b) Information that must become public due to regulatory or public authorities' requests. In such a case, the manufacturer must inform Gamma - prior to the publication - that such a publication will happen.

	<p>Regardless of the above exceptions, the manufacturer must treat information confidentially, if what is known publicly captures only parts of the information available to him.</p> <p>3. Gamma may share with the manufacturer current or future product prices and calculations. Gamma may ask the manufacturer to print prices on the packaging. In that case, both parties agree to the following:</p> <ul style="list-style-type: none"> a) Gamma has the exclusive and supreme right to determine the product price. b) The manufacturer guarantees to treat all information regarding current and future prices, calculations and adaptations (from now on referred to as Gamma-retail prices and Gamma-calculations) as strictly confidential trade secrets. Specifically, the manufacturer must not share this information with any third party, and especially not his suppliers or other retail customers. The manufacturer must use Gamma retail price and calculations only for the purposes necessary to complete the delivery to Gamma. The manufacturer refrains from ever using Gamma retail price and calculation information for any other business purpose. <p>(External) third parties may include subsidiary companies working with the manufacturer to manufacture products for Gamma, provided that the subsidiary party agrees to all aforementioned strict confidentiality requirements. This must be documented.</p> <p>Within the manufacturer's company, the manufacturer will make information about Gamma retail prices and calculations available only to those persons who are directly involved in the processing of Gamma's orders. These persons guarantee strict confidentiality of the information indefinitely.</p> <ul style="list-style-type: none"> 4. The manufacturer ensures the enforcing of the duties listed in XVII 1. and 2. on any representatives acting on behalf of the manufacturer, employees and any other parties involved in the processing of Gamma's orders. 5. The period for which the XVII clause remains valid reflects the period of this agreement <i>plus 5 years</i> from the time the last delivery was performed by the manufacturer to Gamma under this contract. 6. The manufacturer is obliged to return to Gamma or destroy all documents, files, data storage devices or other information containing data about Gamma retail prices and calculations. The latest date for the complete destruction of the data is the date when all contractual duties have been performed and none are agreed for the future. 7. If the manufacturer or any other party acting on behalf of the manufacturer, including employees, third parties or subsidiary companies, infringes any of the duties listed under XVII, the manufacturer must pay 50,000 EUR to Gamma. Gamma retains the right to request a higher compensation.
XVIII. <i>Risk 1, 9</i>	Contract termination Gamma has the right to immediate contract termination if the manufacturer infringes any of the terms stated in I, III, IV, VI, and XII. Gamma has the right to refrain from accepting any orders that deviate from specifications stated in this contract.
XIX. <i>Risk 10</i>	Adaptations of contract and the "General Terms and Conditions" 1. Any adaptations to this agreement must bear written consent. 2. Gamma's General Terms and Conditions complement this agreement.
XX.	Expired Contracts

	All previously signed agreements with Gamma become void with the signing of this agreement.
XXI. <i>Risks 10</i>	Severability Clause If any provisions in this agreement become void, or if there is a void provision in this contract, all other terms remain valid. To address the invalid or void provision, there must be negotiated an adequate provision. That new provision must – as far as this is legally possible – be congruent with what the parties would have agreed in the context of this agreement, if they would have known of the invalid or void provision.
XXII. <i>Risks 10</i>	Place of jurisdiction 1. The place of jurisdiction in all cases of conflict, from this or other agreements, is in [city of retailer Gamma's headquarters]. 2. For the contract period, both parties agree that the German law, excluding the UN law for the sale of goods, applies.
Signatures by	
[Manufacturer M2CEO] and [Gamma's Director of Purchasing]	

The framework contract between retailer Gamma and manufacturer M2 was drafted on a 'take it or leave it' basis. Manufacturer M2 reports copy-pasting Gamma's framework contract clauses for his own use in interactions with suppliers involved in the production of Gamma's products, which results in over 95% similarity of the clauses. For this reason and scope limitations, Manufacturer M2's framework contract is not reported. In both cases, the framework contracts are attached to ordering agreements containing specific information regarding volume, price, delivery times and payments. While several framework contract and GTC clauses are similar, framework contracts emphasise the retailer's *proprietary and confidential product specifications*. These specifications are drafted, monitored and adapted by retailers' internal quality assurance divisions, who employ auditors to conduct inspections across all stages from primary produce and raw materials, manufacturing, packaging and logistics. *Each retailer has their own specifications, which typically exceed legal and industry (i.e., IFS) specifications across several parameters, including final product and ingredient quality; environmental, social and ethical responsibility; and traceability*³⁸.

³⁸With the exception of Gamma, all German retailers' process specifications are linked to industry standards, such as SA 8000 for social responsibility and labour conditions, or EN 45001/GLP for laboratory tests. SA 8000 governs working conditions and is modelled on the ISO 9000 quality standard. In contrast to ISO 9000, SA 8000 defines concrete performance standards, which cover nine areas, including child labour, health and safety, forced labour, freedom of associations and collective bargaining, discrimination, disciplinary practices, working hours, compensation, and management systems.

8.5 The use of framework contracts for dealing with risk

Framework contracts' *form* and *content* facilitate dealing with risk in direct food retailer-manufacturer relationships. 'Form' refers to the contract's purpose, length, legal standing and involved actors. 'Content' refers to the contract clauses and attached documents. Retailers and manufacturers rely on framework contracts, because the:

"...purpose of the contract is to equip parties for [dealing with] the next incident. ...Contracts are mostly made for 'bad times'. Even if some put it in the drawer, they take it out once an incident strikes" (ID 8).

In addition to 'equipping parties for dealing with the next incident', framework contracts equip retailers and manufacturers for dealing with unknown incidents:

"Framework contracts are created for the future, for long periods of uncertainty. We speak of uncertainty here in 'Knight's' sense. You can address some incidents, but you cannot address uncertainty with equal precision" (ID 33).

Framework contracts address the uncertainty of future interactions by providing a set of modularized, mutually agreed and continent rules, which function as a '*modus operandi*' (ID 33) or a '*corset*' (ID 13) enhancing the predictability of future interactions. This is evident in two industry lawyers' descriptions of framework contracts:

"The framework contract has the quality of not being too specific and yet providing a common 'modus operandi' [Latin: 'way of operating']. ... Essentially, you can see framework contracts as private codifications" (ID 33).

"The main function of drafting framework contracts between trading partners is to create a corset for potential future contingencies.... They create a common ground ex-ante to have a calculable security over how to resolve conflicts" (ID 13).

As the term '*framework*' itself suggests, such contracts provide a contingent:

"...frame, without specifying in detail every possible issue. This gives me the opportunity to define a framework without robbing myself of flexibility and packing my customer and suppliers in such a narrow corset that none of us can move. With framework contracts, we can address variable raw material prices, variable product volumes, and variable transport volumes. Where we need an 'emergency response' we have pre-defined processes, because you cannot start thinking about how to mutually resolve a problem when it is an emergency" (ID 8).

The precision and detail in framework contracts depends on how much the parties know about potential incidents:

"The more concretely you anticipate an incident, the better you can address it. In the food business, it is crucial to address how product recalls are handled.

You can and must be very specific about that. At the same time, the contract should be flexible, like when you agree to revise the contract annually. The advantage is that in areas where you feel uncertain, you can make corrections later" (ID 13).

Framework contract clauses reported in Table 8.1 confirm that anticipated incidents are addressed in detailed clauses: For example, the contract between retailer Gamma and Manufacturer M2 addresses variability in delivery in detail (Section XIII); breach of confidentiality (Section XVII); variable product quality (Sections II; III, IV; V; VI) and negative test result publication by 'Stiftung Warentest' (Section XII). Given that variable product quality is a prime concern for both parties, the framework contract moves beyond product specifications: Sections I, II and V address product quality variability that might originate beyond the contracting party's direct operations. Moreover, in contrast to GTC, framework contracts address *risks idiosyncratic* to the relationship: for example, the contract between Gamma and Manufacturer M2 addresses idiosyncratic risks emerging from contracting *retailer-brand* products (see Sections I, II, VII.2, XI.2, XI.3 and XVII.3).

In addition to clauses addressing anticipated incidents, framework contracts include force majeure, re-negotiation, and dispute resolution clauses to facilitate dealing with 'uncertain areas'. For example, in the case of Gamma's agreement with Manufacturer M2, the force majeure clause is not replicated in the framework contract, but is included in Gamma's GTC. The force majeure clause states that:

"§14.1 Force majeure frees both parties for the duration of the incident/disruption and depending on the impact of the disruption from contractual duties. Both contracting parties must inform each other to the best of their abilities about the type, scope and duration of the disruption and to mutually adapt the contract in good faith" (Gamma's GTC, 2011).

The above example illustrates that force majeure subsumes incidents that may be unknown yet detrimental to the companies' business performance. To offer effective guidance:

"[a]helpful force-majeure clause will include: (a) specification of incidents considered 'force majeure'; (b) both parties' duty to inform each other as early as possible; (c) both parties' duties to come up with solutions on how to get out of the situation; (d) that both parties agree to work together on getting out of the situation. [...] The main thing in force majeure clauses is to set priorities, some general rules for behaviours, preferences, information and co-operation duties, which help to make the response more palpable in advance" (ID 13).

Apart from force majeure, the re-negotiation clause allows for contingent contract terms adaptations based on market or regulatory developments.

The comparison of framework contract content between retailer Gamma and Manufacturer M2, and between Manufacturer M2 and Supplier S2.2, demonstrates that framework contracts

facilitate *transferring risk impact* from the party with higher bargaining power, similar to the use of GTC. For instance, the framework contract (Table 8.1) between retailer Gamma and Manufacturer M2 *transfers* risk impact to Manufacturer M2, who agrees to:

- a) Cover product liability and recall costs (Sections I, V, IX, X),
- b) Bear litigation costs, civil and criminal law implications (Section XII) and third-party claims (Sections IX, X)
- c) Gamma's rights to contract termination (Sections XVII).

In response, Manufacturer M2 replicated the framework contract clauses in their interaction with Supplier S2.2, who agrees to:

- a) Cover all product liability and recall costs (Sections VII, VIII)
- b) Bear all costs arising from third party claims (Section VIII)
- c) Manufacturer M2's right to contract termination (Section XIV).

Transferring risk impact serves the objective of safeguarding tangible and intangible resources: Transferring recall costs and defining compensatory payments directly safeguards financial resources. Additionally, both framework contracts specify clauses *protecting the companies' property rights over resources*, such as brand ownership (see Gamma's contract, Table 8.1: Sections I, II, VII and XVII and in Manufacturer M2's contract: Sections II, IX, XII), product recipes, packaging and pricing calculations. Both contracts contain clauses to protect the companies' brand and company reputation: in the case of the retailer-manufacturer contract by reserving the retailer's right to immediate contract termination and 'dissociation' from the supplier (Section XVI.3, XVIII) and the retailer's right to intervene and stay informed on interactions between Manufacturer M2 and third parties such as governmental authorities (Section V.2), media (V.2) or the consumer protection group "Stiftung Warentest" (Section V.2, XII). The reputational impact of Stiftung Warentest's potentially negative product tests is of such concern that Gamma dedicates a clause regulating the interaction with this third party only.

8.6 Monitoring and enforcing framework contracts

Framework contracts rely on a combination of provisions for first, second and third-party monitoring, as well as legal and non-legal sanctioning. A consultant lawyer to German food retailers and manufacturers refers to monitoring as 'screw drivers' used to limit variability in performance:

"Framework contracts always include audit monitoring: First-party audits by the company itself, ...second-party audits by the retailers, third-party audits by the IFS and then you have the governmental inspections. So you employ a few 'screw drivers' to influence compliance" (ID 13).

The framework contract in Table 8.1 comprehensively captures first party monitoring in Section V. A retailer-label confectionery manufacturer reports 60 audit days per year, with less than half of the days dedicated to third party IFS audits (ID 14) and the remaining days split between first and retailer second party audits. Retailer audits typically happen once annually, without prior notification:

"Retailers reserve the right per contract or GTC to visit the supplier at any day or night time. Retailer audits take less time than the IFS and may last 4-5 hours. They will issue a report with points that the company needs to address over a short period of time. Then they come again, unannounced, to check if we did it" (ID 14).

In addition to the manufacturer's agreement to first and second party audits, the manufacturer typically accepts responsibility for auditing sub-contractors. For example, Beta requires its manufacturers to:

"address non-compliance with BSCI guidelines at their respective suppliers' sites. If the manufacturer notices any issues, they must remedy them. Only if the encountered issues are beyond the manufacturer's power to be rectified must they notify Beta and Beta will consider offering support measures" (Lebensmittelzeitung, August 2013).

In case of incidents exposed to added media or NGO scrutiny, such as 'palm oil' production or pesticide use, retailers extend second party audits beyond Germany and sometimes implement local training initiatives to enhance compliance rates with product and process specifications:

"The benefit of introducing local training schemes and checking the products and processes on site, even in distant markets like China, is that you can be sure the products comply with the quality required. ... [A major German retailer] told me recently that they want to know the issues happening locally, because once the products are on their way, it is too late" (ID 13).

When second or third-party monitoring reveals non-compliance, retailers and manufacturers activate legal and non-legal sanctioning provisions:

"If you do not sanction non-compliance with measures that were anticipated and known in advance, you deviate from the rules and undermine trust created in this framework" (ID 13).

Sanctions are exercised to penalise non-compliance and enforce future compliance. While legal sanctions exercised by governmental authorities are deemed ineffective due to under-staffed auditing divisions and low fines, retailers and manufacturers draw on a range of non-legal sanctioning provisions such as compensatory payments for damages, fees or (temporary) contract termination. Such non-legal sanctioning provisions are considered 'customary law' ('Gewohnheitsrecht', ID 14). Even minor deviations from contract terms can

mobilise non-legal sanctioning provisions, as reported by the former quality manager at a poultry manufacturer:

"We were delivering to [retailer] Gamma and their contract requires a 98% delivery threshold. This means we may never deviate from their ordering volume by more than 2%. But this can happen very quickly! We were once ...not able to deliver ...they threatened us with draconian penalty payments. ...if we were a smaller company ... such penalties can break the neck" (ID 14).

Retailer Beta uses a combination of financial sanctions, such as deducting 5-10% of the ordered product value plus a lump-sum payment of 3000 Euro per delivery. In addition, non-legal sanctions involve changes to contract terms (such as increased compensatory payments, more frequent audits) and temporary or finite contract termination:

"It is common practice among retailers to 'block' a certain manufacturer from further delivery contracts for some time following an incident. Sometimes this is necessary to signal to the media and consumers that the retailer is 'doing something' about it. The retailer distances himself for some time and may re-list if the manufacturer promises to play by the retailer's rules again" (ID 40).

Contract termination or 'blacklisting' suppliers in internal databases are the most powerful non-legal sanctions (ID 1). Hence, protecting a company's reputation and continuity of business relationships is a vital concern for retailers, manufacturers and other suppliers. To achieve this, most framework contracts specify *out-of-court dispute resolution provisions*, including negotiation and arbitration. A consultant lawyer to German food businesses highlights that:

"no one wants to bother public courts with an issue in your business relationship. In practice, this happens very rarely.... The purpose of framework contracts is not to prepare for or facilitate court settlements, but to facilitate an ongoing relationship with as little recourse to the courts as possible" (ID 13).

This observation is echoed by a senior member of the 'German Industry Association for Food Law and Science' who highlights pragmatic reasons for settling disagreements 'entre nous':

"ultimately what decides how an issue is settled is very pragmatic: ...The bigger companies do not go to court because they do not want to stand in potentially negative limelight even if they have the capital and good chances to win. Smaller companies do not go to court because they do not have the capital and are afraid of catapulting themselves out of business. A lot of things are settled 'entre nous' through negotiating, threatening, offering. A court settlement mostly only promises to damage the relationship somehow ...An internal agreement is much more cost effective" (ID 12).

Hence, most retailer-manufacturer framework contracts consulted for this research include provisions specifying willingness for mutual negotiation to resolve potential conflict.

Negotiation and arbitration are important provisions supporting sanctioning non-compliance without reverting to public courts for three reasons: (1) Both take place in a closed environment and remain unknown to media, consumers or competitors; (2) In case of arbitration, companies draw on industry experts specialised in resolving industry specific cases, enhancing speed and fairness; (3) In contrast to public court settlements that typically result in compensatory payments or contract termination, the objective of negotiation and arbitration is the continuity of the agreement.

8.7 Negotiating framework contracts

In contrast to GTC, framework contract negotiations require personal meetings between the two parties and typically proceed in two steps: Prior to the negotiation, a manufacturer/supplier screening process is launched to evaluate a company's qualification for contract negotiations. Screening involves the consultation of the company's performance registered in the IFS database, second-party audits and issuing of a comprehensive supplier screening questionnaire that often covers questions moving beyond the screened party's on-site business (ID 3). If the screening is successful, the manufacturer or supplier typically qualifies for a 'conditional offer':

"This is not a contract yet, but the company qualifies to become an eligible supplier. We then have negotiations where we ask specifically for the capacities, product development investments, potential for exclusivity etc. Comprehensive screening is crucial for the company performing the screening, because it pays off in better insurance terms and less potential for risk later" (ID 4).

The following contract negotiations are strongly characterized by relative power distribution, leaving manufacturers and suppliers often to:

"either consent to the contract the retailer typically pre-drafted anyway or to leave the table. This is less a question of freedom of contracting and more a question of exercising power" (ID 14).

Manufacturer M2 reflects on the negotiation experience with retailers Gamma and Delta by stating that:

"We have no chance to negotiate the contract terms and the whole 'negotiation' is a very unpleasant process. Usually, our managing director and distribution manager are invited to 'take' the contract. On the retailer side, there is usually the purchasing manager and sometimes, the quality assurance manager. If we want to change even one word, they can become very rude, leave the room, or just say that if we do not want the contract, we can leave. So, we take it" (ID 21).

Once the contract is signed, Manufacturer M2 copies and pastes most sections of the retailer's framework contract into their own supplier contracts and follow a similar negotiation

strategy. The manufacturer's 'copy-paste' strategy leads to a replication of contract terms that contributes to the proliferation of retailer terms beyond the retailers' direct contracting parties.

8.8 Changes to framework contracts

Changes to framework contracts are an exception and typically occur incrementally. Two clauses in framework contracts address change: the re-negotiation clause and the clause requesting all changes to be confirmed in writing. Manufacturer M2 highlights continuity and stability when reflecting on changes to framework contracts over recent decades:

"We have annual meetings with all retailers, where we re-negotiate supply conditions. ... what are the conditions we need to meet to supply the retailer for another year? Currently, we have had successful relationships with them [the retailers] since 1998 and we always delivered higher sales. The retailers want to have a share of profit from those sales, and if it increases, they will change the conditions. Let's say if one year the retailer had a share in our sales of 4.5%, at the next re-negotiation, they will want 4.7%. However, these changes are made to the conditions, which are written in the ordering agreement. Our framework contract... the last version we hold is from 2000 and has not changed since. It stayed exactly the same. The re-negotiations are always concluded verbally and then the retailer writes it down and sends it to us. And for each year, we clip the ordering agreement on to the framework agreement" (ID 21).

Retailer Delta's compliance manager echoes this view, highlighting that

"..., framework contracts follow time-tested principles and rarely, re-negotiations will result in major changes...In negotiations, both parties think about 'what has stood the test of time? What shall we retain, what shall we change?' You change things, for example, by including issues that you could not have thought about before and add them...you can definitely speak of a perpetuating nature of framework contracts" (ID 4).

The 'addition' or change of terms in framework contracts occurs in two ways: (1) adaptation or addition of clauses within the contract; or (2) addition of attachments to the contract. Both types of changes typically follow significant precedent cases, such as changes in governmental regulations. For example, following the European legalization of GMO in foods, most German retailer framework contracts started to include a 'GMO free' clause in framework contracts (see Table 8.1, section IV). Another example is retailer Delta's introduction of the 'crisis paragraph' in its framework contract following product recall incidents. Delta's compliance manager speculates on the cause of the 'crisis paragraph':

"Such changes were typically implemented after a major recall went thoroughly wrong. Maybe the supplier was not available for administering the recall or he provided incomplete information and we [at Delta] said: 'This recall went so badly, we will learn from this negative incident.' We state now

for example: We need a reliable contact person who is available 24/7. We want to be informed immediately about any information requests by media or authorities. Such clauses are then often copied by other companies, because such things 'go around' and I bet in half a year, every retailer will have something like this clause" (ID 4).

In addition to adapting clauses within the framework contract, a common way to administer changes is by updating or adding *attachments to framework contracts*, including (updated) product specifications, insurance policies or ordering agreements. Manufacturer M2 reports that:

"Framework contracts become thicker over the years, because there are more specifications attached to them. In 2011, some discounters added the BSCI regulations to their contracts. Retailer Beta even created a "Society & Environment" division which works with their Director of Purchasing. They supply purchasing managers with know-how on sustainability...This division most likely added the BSCI. [...] Then, we often have changes to product specifications, because we must match retailer-brand products to manufacturer-brand equivalents" (ID 21).

The challenge in adapting framework contracts rests in responding to precedent cases, while safeguarding the parsimony and contingency of framework contracts (ID 13).

8.9 Benefits and limitations of framework contracts

Framework contracts offer retailers and manufacturers two benefits in dealing with risk:

First, framework contracts provide a parsimonious 'modus operandi': a brief set of stable, contingent and legally enforceable rules. Framework contracts limit variability across retailer-manufacturer *and* manufacturer-supplier interactions, as well as ambiguity emerging from varying legal provisions by defining a default set of rules that precedes public law provisions and GTC. Framework contracts are legally enforceable, regardless of a contracting party's geographical location, and allow retailers and manufacturers to subject international suppliers to German law. Moreover, private contract law freedom allows negotiating an idiosyncratic 'liability regime'. Second, while the analysed framework contracts share high degrees of standardization and similarity across the food retail industry, adapting framework contracts from addressing *idiosyncratic* risks of special concern to either party is not precluded.

The limitations of using framework contracts for dealing with risk are primarily rooted in potential discrepancies between agreed contract terms and actual performance. This may result from over-drawn contract terms, which set up one of the contracting parties to under-perform. For example, a former quality manager of one of Germany's largest poultry manufacturers reflects on over-drawn guarantee-clauses by stating that:

"Throughout my career in the meat industry, I read hundreds of contracts and wondered how anyone could agree to them. Our distribution manager would just pass the contract and specifications to me and I would be the first one to actually read them. They sign it, but they don't read it! Then I say: 'We cannot fulfil all the requirements stated here'. And in response, they [the distribution manager] say: 'We cannot change it anyway, that's the way it is.' ... these contracts are not worth the paper they are written on" (ID 14).

Beyond the German market, market factors may lead suppliers to agree to contract terms standing in stark contrast to suppliers' actual performance:

"For any supplier, especially in markets like Bangladesh, China ...a contract with a big European retailer is the key to the door opening opportunities to new markets. The suppliers from such countries who sign all the contracts with big retailers, including Alpha, Beta, Gamma and Delta...know perfectly well that they cannot really comply with everything stated there, but these companies desperately want to have the contract and will never go to the retailer and say: 'Look [at the contract]: '§14. Child Labour.' We cannot guarantee you that! If you want the products at that cheap price you request here.' For the retailers, the suppliers or importers bear the risk. If anything happens, it is the supplier's fault and the retailers have nothing to do with it, at least de-jure" (ID 23).

In sum, the main limitation of contractual means for dealing with risk emerges from potential discrepancies between the contract terms agreed *de-jure* and the parties' *de-facto* capacity to deliver agreed performance.

8.10 Conclusion

This chapter has examined how German food retailers and manufacturers use framework contracts for dealing with risk. Analysis of the framework contracts-in-use demonstrates that these contracts are modular, standardized and contingent record of agreed rules. While modular and standardized clauses limit variability across direct interactions similar to GTC, retailers and manufacturers can use framework contracts: (a) to negotiate clauses addressing idiosyncratic risks relevant to one or both parties; and (b) to transfer risk impact to the party with less bargaining power. The practice of 'copy-pasting' passages from retailer-manufacturer contracts into manufacturer-supplier contracts alongside monitoring and sanctioning provisions facilitates the application of similar contract terms *beyond* direct retailer-manufacturer interactions.

CHAPTER 9

ANALYSIS AND DISCUSSION

CHAPTER 9. ANALYSIS AND DISCUSSION OF EMPIRICAL FINDINGS

9.1 Introduction

Analysing the empirical evidence, this chapter discusses the research questions “*What constitutes risk in business networks?*” and “*How do companies deal with risk in business networks?*”

In addressing the first research question in Section 9.2, ‘Risk in business networks’, this chapter draws attention to risk as a relevant empirical and conceptual problem in business marketing research. Building on the empirical evidence presented in Chapter Five, this section refines our understanding of risk in business networks by adopting an *uncertainty-based* conceptualization. Building on this understanding of risk, Section 9.3, ‘Dealing with risk in business networks’ responds to the second research question by discussing an *institution-based explanation of how companies deal with risk in business networks*. Drawing on empirical evidence from Chapters Six to Eight, the discussion focuses on how companies use *institutional devices*, including industry standards, General Terms and Conditions and framework contracts, for dealing with risk at *three interdependent levels of interaction*: network, focal, and dyadic interaction.

The institution-based explanation enhances our understanding of how companies deal with risk in business networks in three ways: First, the institution-based explanation highlights how companies use *institutional devices* - such as industry standards, GTC and framework contracts - for dealing with risk (see Table 9.1). Institutional devices provide companies with shared, parsimonious *rules* for interaction in the face of *uncertainty* and facilitate companies’ protection of resources from *impact*. Second, the institution-based explanation highlights how companies actively *codify, monitor, enforce and adapt* institutional devices for dealing with risk. This finding is captured in Figure 9.7: The integrative framework of how companies deal with risk in business networks crystallizes the conceptual synthesis of the network and institution-based research by mapping companies’ use of institutional devices onto the three levels of network interaction. Third, the institution-based explanation illuminates how institutional devices facilitate dealing with risk *interactively* across direct and indirect relationships, because their manifestation in ‘business artefacts’ enables transcending time and space. Figure 9.8 conceptualizes this finding by integrating business artefacts into an extended version of the Actor-Resources-Activities (ARA) model.

9.2 Risk in business networks

‘Risk’ is remarkably absent from existing business marketing research. The literature review highlights that understanding ‘risk’ has preoccupied generations of scholars from various disciplines. The quest to conceptualise risk became a contested arena, with leading researchers admitting to deliberately abstain from defining the term, resolving “to use the

colloquial sense" of risk or "offering both a risk-based interpretation... and sometimes an uncertainty-based interpretation...To that extent, [pleading] guilty" (Vermeule, 2015, pp.6-7). However, the literature review and empirical evidence indicate that examining more rigorously *what constitutes risk* in business networks enhances our understanding of *how* companies deal with risk, because the nature of the phenomenon influences the means used to address it. Therefore, this discussion begins with '*what constitutes risk in business networks*': The empirical evidence presented in Chapter Five questions the probability-based conceptualization of risk that underpins most business and management research. In an embedded, multi-actor context of business networks, risk defies the practicality of probability-based measures and instead requires the consideration of an uncertainty-based conceptualisation of risk. The uncertainty-based conceptualization of risk informs the subsequent discussion of *how* companies deal with risk, presented in Section 9.3.

Developing an uncertainty-based conceptualisation of risk offers a first step towards introducing *risk to the agenda of business marketing and network researchers* and alerting researchers to the *relevance of rethinking the probability-based conceptualisation of risk*. This step responds to two relevant limitations in existing research on risk in business marketing: First, risk has not been systematically investigated in business marketing and network research from an *empirical and conceptual* perspective. Second, existing research across relevant business and management disciplines does not yet consider a conceptualisation of risk generated from a multi-actor perspective. Instead, existing research tends to either adopt probability-based risk conceptualisations from the fields of economics and finance research (Bernstein, 1998) or use the terms risk and uncertainty interchangeably without subjecting the phenomenon to further empirical or conceptual development (for example, Miller, 1992; Hallikas et al., 2004; Vermeule, 2015).

It is worth noting that this research does not dismiss existing business and management research on risk. However, by changing the unit-of-analysis to a multi-actor perspective and developing an uncertainty-based conceptualisation of risk limits the *transferability* of findings from the existing research of how companies deal with risk to a business network context. The main argument developed in this section is that the moment when risk is considered in the *multi-actor* setting of *business networks*, both assumptions – probability-based and unilateral risk management - appear of limited relevance. Drawing on the observed discrepancy between the empirical evidence presented in Chapter Five and probability-based risk research dominating existing literature, this thesis illuminates the limitations of applying probability-based conceptualisations to capturing the locus and impact of risk in retailer-manufacturer networks.

The empirical evidence demonstrates that the *distributed locus and impact* of risk, which originate from the embeddedness of actors in direct and indirect interactions, prevents actors

from isolating and predicting risk events and from dealing with risk unilaterally. Specifically, empirical evidence from German food retailer-manufacturer networks illuminates that companies encounter multiple loci of risk emerging from network complexity, variability in outcomes, processes and consumer perceptions and legal ambiguity, which collectively contribute to the uncertainty dimension of risk and may result in damages to tangible and intangible resources. The locus and impact of risk in business networks are *dynamic*, in that they can migrate across direct and indirect interactions to affect seemingly unrelated actors, resources and activities 'at the other end of the network'. This finding confirms supply chain research on risk, which concludes that interaction in a "network causes *transfer* of risk between companies" (Hallikas et al., 2004, p.51, emphasis added) and that risks "in global supply chains are linked to each other in complex patterns with one risk leading to another, or influencing the outcome of other risks" (Manuji & Mentzer, 2008, p.192). Similarly, Harland, Brenchley and Walker (2003, p.51) suggest that risk is "shifting around supply networks...the location of risk has shifted through complex changing supply networks." The risk dynamics emerging from interdependent network *interactions* resemble the non-linearity of complex systems and defy assumptions of equilibrium, precise cause-effect links, complete foresight and the possibility for centralized control (McMillan, 2004; Stacey et al., 2000). Yet, most of these assumptions underpin probability-based conceptualisations of risk which has significantly informed existent research on risk. Figure 9.1 captures these observations by proposing an uncertainty-based conceptualisation of risk in business networks:

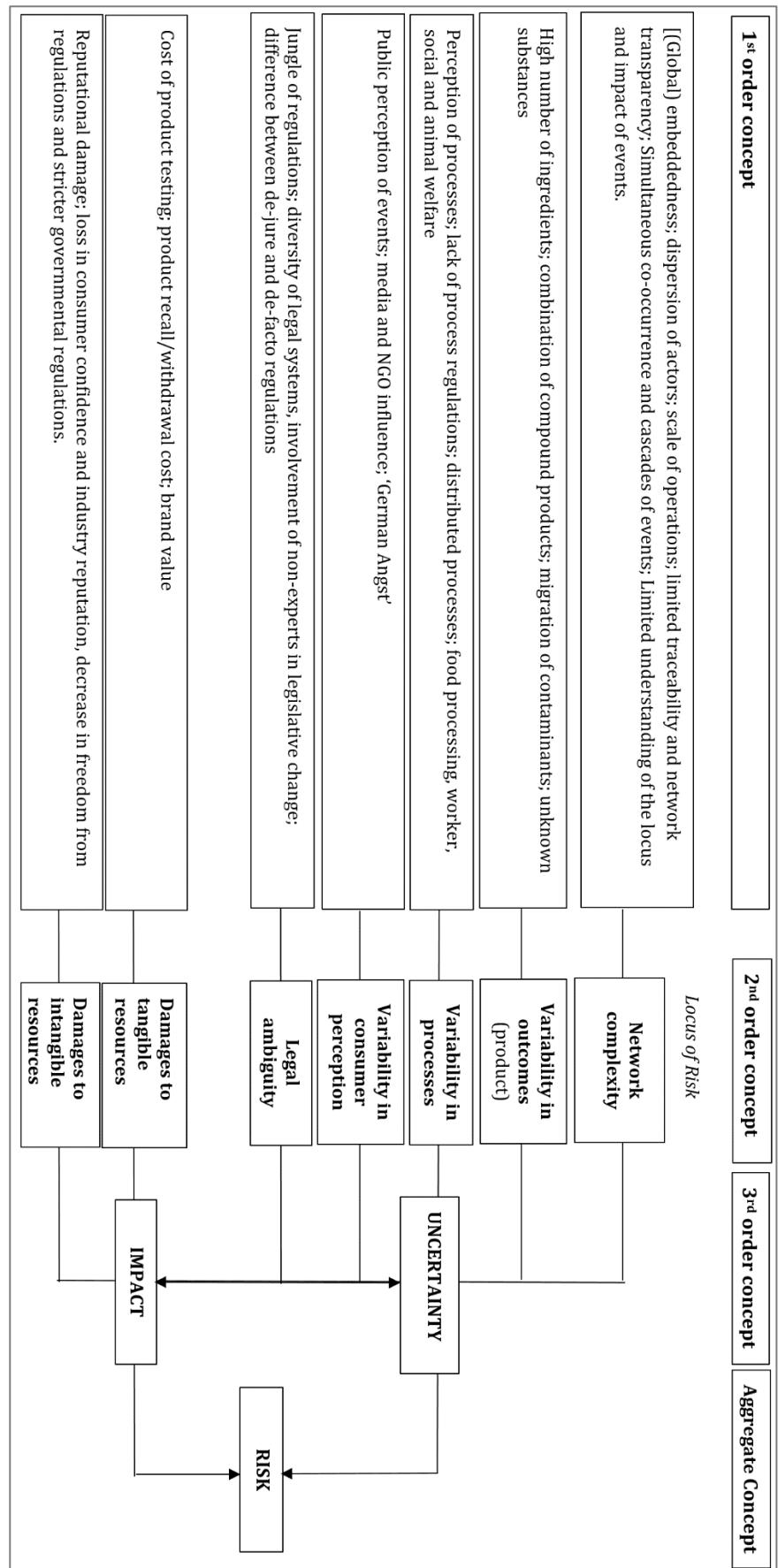


Figure 9.1. Risk in business networks.

The uncertainty-based conceptualisation emerged organically from investigating risk in a multi-actor setting and echoes the observations of institutional economists (for instance, Knight, 1921; Hardy, 1923; Beckert, 1996) as well as the practical considerations evidenced in consulting reports (for example, Pergler & Lamarre, 2009) and the recent move by the ISO (Guide 73, 2009), who emphasize *uncertainty as an inextricable property of risk* in business interactions.

The first-order concepts in Figure 9.1 are illustrative of the substance underpinning higher-order concepts. Figure 9.1 highlights that several *second-order concepts*, including *variability in outcomes, processes, consumer perceptions, and legal ambiguity* are aligned with findings from existing research in supply and operations management (for example Svensson, 2002; Zsidisin et al., 2005; Oke & Golapakrishnan, 2009). Similarly, the second-order concepts '*damages to tangible and intangible resources*' are congruent with attempts to categorize risk according to impact or loss (for example, Harland et al., 2003; Sheffi & Rice, 2005). Yet, Figure 9.1 conceptually captures three important observations which *move beyond* the reproduction of existing typologies and contribute to *refining the conceptualization of risk in business networks*:

First, Figure 9.1 captures the empirically generated second-order concept of '*network complexity*', which has not featured in existing research on risk that has predominantly approached investigated risk from a single actor unit-of-analysis. Recognising '*network complexity*' significantly enriches our understanding of risk in business networks, because it captures that:

- a) Risk emerges from and migrates through direct and indirect interactions of inter-dependent actors;
- b) Actors are embedded in known and partly unknown interactions with other actors' activities and resources;
- c) The scale and global dispersion of actors, resources and activities precludes accurate foresight;
- d) Dynamic cascading and geographic distribution may preclude accurate cause-impact identification.

The first-order concepts comprising '*network complexity*' defy necessary assumptions to satisfy probability-based conceptualisations of risk and instead correspond more closely to the way previous research conceptualized *conditions for uncertainty* (for example, Duncan, 1972; Milliken, 1987; Carson, Madhok & Wu, 2006). Moreover, positioning '*network complexity*' *above* the other second-order concepts deliberately illustrates that variability in outcomes, processes, consumer perceptions and legal ambiguity are seen in the light of '*network complexity*'.

Second, the second-order concepts are not isolated. The interdependency of second-order concepts reflects the dynamics of 'uncertainty' and 'impact' dimensions of risk in business networks. Hence, the following dissection of second- and third-order concepts in this chapter must be understood primarily as a methodological device to systematically report this conceptualisation of risk in business networks. This structured reporting of 'what constitutes risk in business networks' shall therefore not conceal that the challenge in dealing with risk originates from the difficulty of clearly isolating and predicting the locus and impact of risk *ex-ante*.

Third, Figure 9.1 conceptualises risk as an aggregate of two third-order concepts: *Uncertainty* and *impact*. This finding is important for three reasons:

- a) The identification of first- and second-order concepts is one of the few empirically-based attempts at identifying concepts *constituting risk*. Previous research tended to *adopt* an existing definition of risk and subsequently focus on investigating 'risk management strategies' from a single company perspective. Such research appears to operate *in an analytical vacuum* (see, for example, Chopra & Sodhi, 2004; Jung, Lim & Oh, 2011), which does not question the *validity and transferability* of adopted risk conceptualisations. Reconsidering the conceptualisation of risk in empirical and conceptual terms is important, because it informs the way we research *how companies deal with risk*.
- b) Further, considering risk as an *aggregate* of the third-order concepts 'uncertainty' and 'impact' is a significant refinement, because it addresses the issue in existing research, which suggests that risk is *directly* constituted by those concepts that in Figure 9.1 feature as *second-order* concepts.

In other words, existing research often assumes a *direct link* between 'risk' and 'second-order concepts' such as 'regulations', 'outbreaks' or 'product hazards' (for example, Oke & Gopalakrishnan, 2009). Such a conceptualisation proliferates throughout most business and management research, which adopts a particularistic approach to researching 'single risks' such as 'regulatory risk' (Smallman, 1996) or 'information-systems risk' (Finch, 2004). Similarly, existing research suggests a 'direct link' between first or second-order concepts of *impact* and risk, which leads to research on 'reputation risk' (i.e., Schwartz & Gibb, 1999) or 'asset risk' (Simons, 1999). The problem with such conceptualizations is that it simplifies risk to the extent that it either *equates the locus with risk* itself (overlooking the impact dimension) or *equates the impact with risk* with less attention dedicated to the locus. The result is a proliferation of *particularistic approaches to risk* (Miller, 1992), which is more adaptable to probability-based risk conceptualisations, but rarely corresponds to the complexity of 'risk' that companies encounter in network interactions.

c) Finally, the conceptualization in Figure 9.1 gives further impetus to efforts directed at *disentangling* the concepts of uncertainty and risk without using the terms interchangeably or equating one with another (Beckman, Haunschild & Phillips, 2004, p.260³⁹).

The remainder of this section discusses the uncertainty and impact dimensions of risk presented in Figure 9.1.

9.2.1 Uncertainty dimension of risk

Existing research on risk has rarely questioned the validity and transferability of probability-based risk conceptualizations in a business marketing context. However, critically reflecting on two key assumptions underpinning probability-based risk conceptualisations illuminates how and why the uncertainty-based conceptualisation of risk proposed in this section is more appropriate to inform our understanding of risk in business marketing.

First, research adopting probability-based risk conceptualisations assumes the *quantification of uncertainty as measurable risk*, because it allows 'editing out uncertainty' for modelling purposes: Uncertainty has been understood as the "Achilles-heel of economic theory" (Beckert, 1996, p.834) because it defeats the function of rational choice theory. Similarly, 'double contingency' of interaction is edited out by "assuming rational action on the side of both agents" (ibid., p.826)⁴⁰. While these assumptions facilitate risk measurement and modelling in experimental settings, these assumptions do not reflect empirical manifestations of risk.

Second, existing research on risk could afford to neglect validity and transferability concerns of the probability-based risk conceptualisation, because it avoids confrontation with issues of uncertainty and contingency of business interactions by adopting a single actor unit-of-analysis. This methodological choice significantly channelled a majority of research on risk

³⁹ While there are many examples offering a liberal treatment of the concepts 'risk' and 'uncertainty', it is worth noting Miller's publication (1992) due to its frequent citation in management and business research. Miller (1992, p.311) mentions in the first sentence of the paper's abstract that "[t]reatments of risk in the international management literature largely focus on *particular uncertainties* to the exclusion of other interrelated uncertainties" (emphasis added) while he sets out to address the issue that "the strategic management field lacks a generally accepted definition of risk". The inter-changeable use of 'risk' and 'uncertainty' evident in the quoted passage is not further addressed or resolved in the paper or subsequent publications.

⁴⁰ The problem of double-contingency has been conveniently minimized in economic and financial experimental modelling of risk by assuming that

"agents can anticipate rationally the choices of other [rational] agents using the information they hold from the observation of past behaviour of the agent. The models assume that economic actors behave as if they know the structure of the economy so they can deduce optimal forecasts despite the ongoing changes in the economy...This claim has been empirically challenged with the argument that the degree of fore-knowledge and rationality attributed to agents in these advanced economic models becomes increasingly sophisticated and it becomes more and more unlikely that economic actors understand all relevant variables of the model properly" (Beckert, 1994, p.811).

into the 'Robinson Crusoe fallacy' (Brennan & Buchanan, 2008 [1985]), which metaphorically reflects the assumption that a single actor operates in a contextual vacuum, where he is confronted with a faceless environment and can impose unilateral survival strategies. These assumptions contradict most business settings in which actors "cannot choose the dynamic for their industry or their organization because the dynamic emerges from the *interaction* within the whole population of organizations in an industry" (Stacey et al., 2000, p.127, emphasis added). Consequently, key assumptions that cemented the success of probability-based research on risk offer limited validity in business network research, which considers multi-laterally contingent and embedded interactions as its building blocks.

While limitations of probability-based risk conceptualizations were repeatedly exposed (for example, Knight, 1921; Duncan, 1972; McGoun, 1995; Bernstein 1998; Boy, 2015) this critique is rarely considered in business and management research on risk. This may be attributable to three reasons: First, advances in quantifying uncertainty as probability-based risk have been lauded for decades as a breakthrough in transforming economics and finance research (Hicks, 1931; Bernstein, 1998). Second, probability-based risk conceptualisations appear as more reliable and legitimate reference points in organisational decision-making (Leca & Naccache, 2011). Third, critics of probability-based risk conceptualisations offer limited systematic research into alternative conceptualisations of risk and, respectively, dealing with risk. The latter is particularly well-illustrated in research by Das and Teng (1999, p.51), who conclude that:

"[i]n risk analysis, managers assign probabilities to a range of possible outcomes ... A computer program then calculates the distribution of net present value (NPV) of each strategy. Managers choose the one with the most desirable distribution of NPV. In reality, though, managers may not know about the kinds of possible outcomes, and it is very difficult for them to assign reasonable probabilities to possible outcomes That is why managers usually do not rely on probability estimation. Quantifying risk, while desirable, may not be the best approach in aiding complicated strategic decisions."

Das and Teng echo conclusions from scholars in business and institutional research (for example, Norton, 1902; McGoun, 1995), who observe that "in many business situations, one cannot know the set of alternatives or foresee all outcomes in the first place" (Mousavi & Gigerenzer, 2014, p.1673) and that therefore we cannot study how actors *should* deal with risk without understanding how risk manifests and how actors are able to deal with risk. For this reason, the remainder of this section discusses the first- and second-order concepts underpinning the uncertainty-based conceptualisation of risk, including network complexity; variability in outcomes, processes and consumer perceptions and legal ambiguity.

9.2.1.1 Network complexity

'Network complexity' is a pivotal second-order concept informing the uncertainty-based conceptualization of risk. 'Network complexity' is used as an umbrella term capturing characteristics of *network interactions* that contribute to actors' uncertainty over future risk. This reflects Beckert's (1996, p.820) observation, who identifies complexity as the *primary* reason for uncertainty, because complexity of "relations in the social world...leads to unintended consequences and prevents the anticipation of outcomes". Due to the predominant focus on the single actor unit-of-analysis, 'network complexity' has not featured systematically in existing risk research. Empirical evidence from German food retailer-manufacturer networks generated five first-order concepts underpinning 'network complexity':

- 1) Embeddedness of actors, resources and activities;
- 2) Global dispersion of actors and large scale of operations;
- 3) Limited traceability and network transparency;
- 4) Simultaneous co-occurrence and dynamic cascades of events;
- 5) Limited understanding of the locus and impact of events.

Figure 9.2 captures illustrative evidence underpinning 'network complexity':

[(Global) embeddedness]: [1] "[w]e live in an increasingly globalized and interconnected world, where food products move rapidly across borders. A contaminated raw material or common ingredient can end up creating very large outbreaks of food-borne disease across several countries, causing expensive recalls on a large scale..." (Peter Embarek, scientist at the International Food Safety Authorities Network, GFSI, 2012); [2] "We have no food business that can afford to limit its efforts in dealing with risk to its 'four walls'. We always need to look at the whole value network, to include everyone who may be involved in previous stages of production, who may provide ingredients, ingredients of ingredients, packaging of ingredients of ingredients and so forth" (ID 23).

[Global dispersion of actors; scale of operations]: [1] "I think that the greatest challenge for us as a retailer is keeping up with the increasing complexity in food sourcing, trade and retail. This complexity comes from very high variability of suppliers...different ingredients and processes and the scale of operations. We have hundreds of people involved in food from farming, to logistics, to packaging, to warehousing, even on our shop floors." (ID 4); [2] "Product risks can originate from anywhere in the value chain, but mostly, products or ingredients imported from China are affected... in 43% of the [contamination] cases, we do not know who the manufacturer is! ... Some of the causes of this lack of transparency are the limited resources of public authorities in China and even in European ports...Some of the local authorities are not very helpful, because they appear to be just the tip of an iceberg of 'complex networks of relationships' with other authorities and companies." (ID 28)

[Limited traceability and transparency]: [1] "The worldwide trails that transport the likes of cumin and paprika from the field to the fork is so labyrinthine it's actually extremely difficult to solve...The more intermediaries the spices pass through, the more opportunity there is for tampering and the harder it is to find the culprit...It can be very difficult to trace back further than one or two levels" (Tom Bawden, The Independent, February 18, 2015); [2] "...there can often be subcontracting and subcontracting until the company at the top of the chain might not be certain where it ends. You need to understand how your partners would behave." (David Noble, 2012); [3] "...in our company, we have started creating 'risk fields' - each field is complex! And finally [referring to the last 'category'], that's my favourite: 'Others'. That is basically the category where anything can happen and where we could not even think of it yet" (ID 4).

[Simultaneous co-occurrence and cascades of events]: [1] "[Risk] is an issue that comes about through the simultaneous co-occurrence of many different factors, which assail one like an avalanche... You have a changing role of media, interlocking of new international issues, which were not that relevant fifteen years ago, because you were sourcing more locally and you knew more or less personally who your suppliers were. Today, you have many businessmen who order something from a factory they have never even seen! There is a diversification of issues that is not easy to grasp, let alone control...The issue of pirates around the Somalian coast... just a simple example of how seemingly unrelated events become very relevant to seemingly distant businesses...Now, they become more and more dependent on others. They [the companies] become 'parts' that must function in a larger system and we just assume that it is going to work out somehow, although we do not exactly understand how." (ID 20); [2] "1. Consider 'risk cascades' rather than individual risks. 2. Think through the risks to your whole value chain. 3. Understand your and others' likely responses...5. Address the implications of risk, not just the risk map." (McKinsey & Company, January 2009, p.1).

[Limited understanding of the locus and impact of events]: "When somewhere issues [refers to risk] occur, it is difficult to evaluate: Will it affect my company? Will it not affect my company? Maybe? [...] Many people [businessmen] do not have an accurate understanding of the complexity of their own value chains and what may affect them and what may not. A lot of outsourcing of activities leads to transfer of responsibilities and risk, without really understanding what these risks are and how they can backfire" (ID 20).

Figure 9.2. Network complexity.

'Network complexity' emerges from companies' *embeddedness* in a heterogeneous "environment that consists of other organizations responding to their environment, which consists of organisations responding to an environment of organizations' responses" (DiMaggio & Powell, 1983, p.149). This phenomenon is known as *double-contingency* (Beckert, 1996). Since network interactions comprise three or more actors, contingent (inter-) actions and resulting uncertainty are inherent in business networks. Once uncertainty is coupled with

potential damages to tangible and/or intangible resources, it becomes a 'risk'. The following discussion briefly reviews the first-order concepts underpinning 'network complexity':

Embeddedness of actors, resources and activities: This first-order concept captures the observation that food retailers and manufacturers rely on *closely interdependent interactions* with a variety of

- a) *Actors*, such as food brokers, processors and manufacturers, packaging and logistics providers;
- b) *Resources*, such as ingredients, tracking systems, manufacturing facilities; and
- c) *Activities*, such as joint manufacturing, product recalls or laboratory testing.

For example, the embeddedness with other business actors who "may provide ingredients, ingredients of ingredients, packaging of ingredients and so forth" (Interview ID 23) is visualized in the multi-actor map of 'distributed risk' (see Chapter Five, Figure 5.3). Embeddedness highlights a single actor's limited ability to 'act' unilaterally and in isolation from a wider context, regardless of an actor's relative power in a network, and relates to the observation that business interactions are highly context bound (Holmlund & Törnroos, 1997). Embeddedness extends beyond the notion of economic interdependence to encompass the "contextualization of economic activity in ongoing patterns of social relations and captures the contingent nature of an economic actor's activities" (Choi & Kim, 2008, p.8). In other words, embeddedness recognizes the contextual interdependency of actors, resources and activity networks in the wider social, legal, political and technological structures, which shape and are shaped by actor's (inter-) actions within those structures. Embeddedness of heterogeneous actors, resources and activities is at the heart of business network research and have been recognized as key network characteristics contributing to *network complexity* (Baraldi et al., 2007, p.887). Similarly, (global) dispersion of interdependent actors, resources and activities as encountered in the German food retailer-manufacturer networks were recognised to "lead to formidable uncertainties ...and a high degree of unpredictability" (Mouzas & Ford, 2006, p.1248).

Although embeddedness has been repeatedly recognized as a key concept in network research (Holmlund & Törnroos, 1997; Ford, Gadde, Håkansson & Snehota, 2003) to capture actors' activities in *accessing and sharing resources*, existing research consistently neglects the *liability* of embeddedness (Uzzi, 1998). In the context of *risk* in retailer-manufacturer networks, *embeddedness* can manifest as a *liability* because:

- a) Embeddedness of interactions forms *conduits for potential risk to migrate* across direct and indirect relationships; and
- b) Actors have *limited freedom in responding to risks unilaterally* due to the contingency and interdependency of an actor's activities and resources on other actors.

Global dispersion of actors and large scale of operations: Network complexity emerging from companies' embeddedness in a wider network is amplified by actors' geographical

dispersion and large-scale operations. This precludes direct monitoring of most actors, although the final products' safety and quality may depend on the activities taking place at various preceding stages, as has been illustrated in the contamination cases in Chapter Five. Actors' geographic dispersion contributes to companies' perception of operating in networks of "infinite size and complexity" (Ford & Redwood, 2005, p.649), which raises two implications for understanding risk in business networks: Given the network complexity emerging from the geographic dispersion of actors, resources and activities, and scale of operations, companies may not be able to identify all relevant actors, yet still be "affected, however distantly, by what happens between all other [actors]" (Ford & Mouzas, 2008, p.11). Hence, companies must widen their horizon to consider events *beyond* their immediate domain and the confines of national borders. This observation confirms Ford and Redwood's (2005, p.649) finding that companies face the dilemma that "significant events may take place in distant parts of the network, or 'another' network, not fully associated with the main or obvious one. ... threats of the future ... often come from unexpected locations."

Limited traceability and network transparency: This first-order concept captures actors' limited insight and understanding of network interactions, which is evident when actors face "subcontracting and subcontracting until the company at the top of the chain might not be certain where it ends" (Noble, 2012). Limited traceability and transparency is illustrated, for example, by the 'nuts for spices' incident and the observation that almost half of all product contamination cases registered by the RASFF from China are not traceable to the manufacturer. In contrast to the dominant perspective in risk research, adopting a multi-actor perspective fleshes out companies' limited ability to unilaterally deal with risk due to the "pattern of interdependencies in a network, the distribution of resources, the limits of knowledge and the reality of interaction" (Ford & Mouzas, 2008, p. 34). The empirical evidence confirms that each company faces limited transparency in direct and indirect interactions due to limited knowledge about the "simultaneous networking of many other companies" (Ford et al., 2002, p.20). While actors attempt to establish greater transparency, empirical evidence confirms actors' realization that there remains potential for "where anything can happen and where we could not even think of it yet" (ID 4).

Simultaneous co-occurrence and dynamic cascades of events: Contrary to existing research on risk, which invested considerable effort into 'isolating' risk events (for example, Miller, 1992; Brindley, 2004), this first-order concept captures the observation that events may occur *simultaneously* and may manifest in *dynamic cascades*. This is evident, for instance, in Nestle's 'risk map' titled "Zone CNN" (see Chapter Five, Figure 5.1), which features more than 26 risks of concern to the manufacturer that occur simultaneously and globally. The simultaneous co-occurrence of events is compared to an 'avalanche' (ID 20), which is tightly coupled with the experience of *cascades of events*, which refers to the process of one event triggering a potential

series of other events, which may eventually 'become relevant to seemingly distant businesses'. In the context of food retailer-manufacturer networks, the most obvious form of risk cascades emerges from the *physical contamination of food*. However, cascades of events can also emerge from incidents that have no direct physical impact on food safety or quality, such as when incidents of unethical trading practices result in product boycotts, which consumers hold responsible for promoting those incidents.

The above observations confirm findings from research on risk in supply networks, which recognises risk not a contained event, but as "shifting around" (Harland, Brenchley & Walker, 2003, p.51) and that "different risk events in global supply chains are linked to each other in complex patterns, with one risk leading to another, or influencing the outcome of other risks" (Manuj & Mentzer, 2008, p.198). Wider business network research highlights that interdependent relationships function as transmitters (Halinen, Salmi & Havila, 1999) where "apparently isolated change in one relationship may cause effects in a number of relationships within a network" (Håkansson & Johanson, 1992, p.132), a phenomenon which became known as the 'domino effect' (Lamming, 1996; Hertz, 1998; Ritter, 2000).

Limited understanding of the locus and impact of events: This concept is tightly coupled with the preceding first-order concepts and refers to actors' limited ability to identify and predict the locus and impact of events. Empirically, this first-order concept is grounded in two observations: First, limited understanding of the locus and impact of events may originate from actors' limited understanding "of their own value chains and what may affect them and what may not" (ID 8). In other words, actors may be unable to assess the locus and impact of events due to the complexity of identifying sequences of interactions within a network. This observation is well-documented in research on networks and uncertainty (Milliken, 1987; Beckert, 1994; Klijn and Teisman, 1997; Koppenjan & Klijn, 2004). Ford and Mouzas (2008, p.7) conclude that "the sheer unknowability of effects and outcomes in a network means that we may even conclude that the effectiveness of strategies ... is likely to be largely a matter of luck."

Second, actors may experience limited understanding of the locus and impact of events due to the constant development of unprecedented food technologies or testing methods that are subject to ongoing research. Examples of such technologies constitute the use of genetically modified organisms, new pesticides or methods in food preservation and laboratory analyses that are capable of detecting new substances. This observation reflects Milliken's concept of 'effect uncertainty' (1987, p.137), which refers to the dilemma that actors may expect the development of new technologies, but may not be able to *understand the impact*. This raises an important implication for our understanding of risk in business networks, because it highlights that even if actors *can* predict an event, such predictions may be limited in guiding actors' understanding of the potential impact. In other words, even if it was expedient to

identify probabilities for future events, such assessments may become of limited value beyond the prediction of the event itself. This concern was raised in existing research most prominently by Huffman (2004), in his paper on "Why environmental scanning works, except when you need it". He concludes that environmental scanning systems, which generate algorithm-based probabilities for predicting the occurrence of future events, become useless once an organization experiences the event. Zsidisin et al. (2005, p.3403) highlight a similar concern, citing lack of "awareness of all the relevant events as well as confidence in the estimated probability of those events occurring and of their impact."

9.2.1.2 *Variability in outcomes and processes*

Variability in outcomes (or products) and processes are of primary concern to food retailers and manufacturers, due to potential hazards to consumer health and safety. In contrast to existing research on product and process risk (for example, Manuj & Mentzer, 2008; Akkerman, Farahani, & Grunow, 2010) this research emphasises the potential *variability* in outcomes and processes. *Variability* accounts more accurately for the variety in which deviations in outcome and/or processes manifest.

Figure 9.3 presents selective evidence of first-order concepts underpinning outcome and process variability:

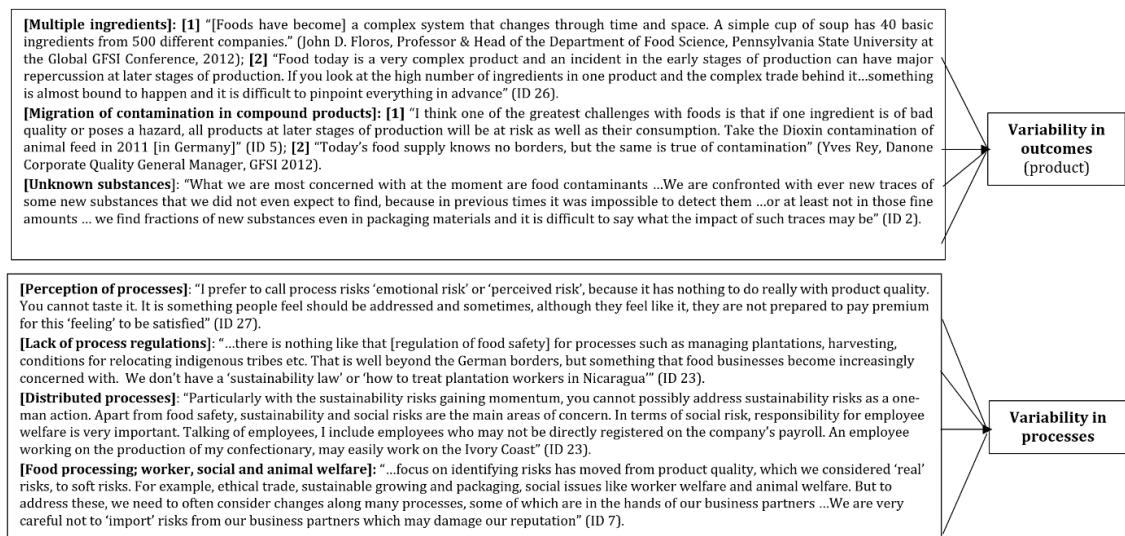


Figure 9.3. Variability in outcomes and processes.

'Outcome variability' may emerge at different stages and locations of processing, manufacturing, packaging and distribution. In addition to variability in ingredient or product composition, outcome variability comprises variable quantity, which is coupled to harvest and price fluctuations. Outcome variability amplifies with increasing product sophistication, the number of product touchpoints and novel food technologies, such as the use of Genetically Modified Organisms (GMO). The potential for migration of product contaminants and detection of unknown substances with new laboratory tests demonstrate that actors

encounter unprecedented incidents, even within a recognised locus of risk. In contrast to outcome variability, process variability is difficult to measure and verify, as it refers to differences in food production processes, which are typically not perceivable by taste or laboratory tests, and to date remain mostly unregulated.

9.2.1.3 *Variability in consumer perception*

While variability in outcomes and processes are recognised dimensions in business and management research on risk, *variability in consumer perception* receives significantly less attention, despite its relevance for marketing managers. This second-order concept captures those consumer-related factors that contribute to the “social amplification of risk” (Harland, Brenchley & Walker, 2003, p.51). Figure 9.4 illustrates the first-order concepts underpinning ‘variability in consumer perception’:

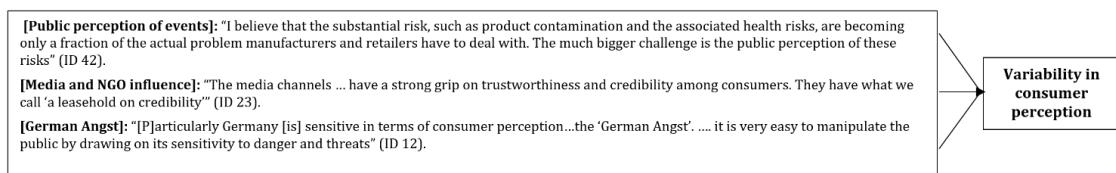


Figure 9.4. Variability in consumer perception

First-order concepts, such as public perception of events or media and NGO influence are difficult to measure or predict with accuracy. This may explain why these first and second-order concepts have received less emphasis in probability-based risk research. However, variability in consumer perception is an important concept for understanding risk in *business marketing*. For instance, empirical evidence demonstrates that consumers tend to hold retailers and manufacturers directly accountable for food safety incidents occurring anywhere in the business network, ranging from plantation management to animal welfare and the preservation of natural resources.

9.2.1.4 *Legal ambiguity*

Empirical evidence from German food retailer-manufacturer networks demonstrates that the ‘legal system’ is not necessarily a ‘stable’ or ‘uniform’ context for business interactions, but ambiguous and dynamic, as actors face:

- A diversity of legal regulations relevant to global sourcing, processing, transportation, packaging, distribution and retail activities;
- A complex ‘jungle of regulations’ (ID 21), which may expose legislative ‘loopholes’ or contradictory requirements;
- Contribution of non-experts to new and often controversial regulations;
- Discrepancies between de-jure and de-facto requirements.

Figure 9.5 captures illustrative evidence of first-order concepts underpinning legal ambiguity:

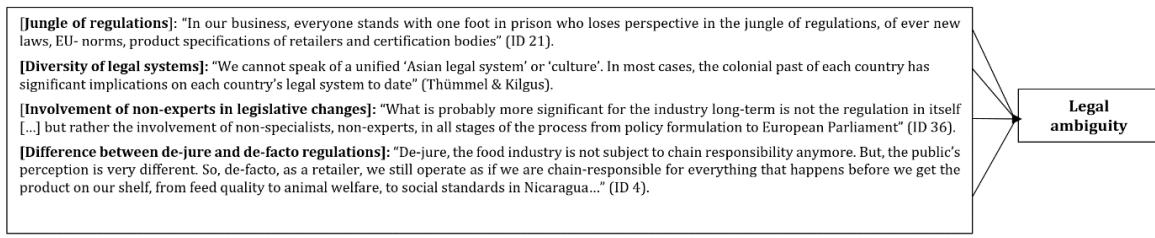


Figure 9.5. Legal ambiguity.

Despite the observation that "any commercial actor and/or transaction is likely to be subject to multiple, and often conflicting, national rules" (Cohen, 2007, p.61), and that actors often differ in their perceptions of the same legal requirements and in their respective decisions about how to act (Carson, Madhok & Wu, 2005), limited research has been devoted to understanding legal ambiguity. Research closest to the concept of 'legal ambiguity' focused on 'institutional distance' (Yang Su & Fam, 2012) and 'institutional uncertainty' (Koppenjan & Klijn, 2004). However, while 'institutional distance' refers only to uncertainty emerging from operations in an unknown market 'institutional uncertainty' is even more general in that it refers to "uncertainty generated from the incompatibility of the institutions involved" (Koppenjan & Klijn, 2004, p.114). Both terms equate the legislative systems with a liberal treatment of the term 'institutions', which is too general for the purposes of this discussion. Therefore, the term 'legal ambiguity' is chosen to denote the uncertainty arising from actors' interactions *with and within multiple and evolving legislative systems*. Actors' uncertainty over changing legislative requirements and respective liability distribution may result in risk from infringing legal requirements and thus generate damages to tangible and intangible resources.

9.2.2 Impact dimension of risk

Risk impact on companies' tangible and intangible resources is a key concern for marketing researchers and practitioners for two reasons: Conceptually, *impact* sets the concept of 'risk' apart from 'uncertainty'. Empirically, impact materializes in damages to tangible and intangible resources, which concern marketing and company performance.

Figure 9.8 illustrates evidence underpinning the second-order concept of damages to resources:

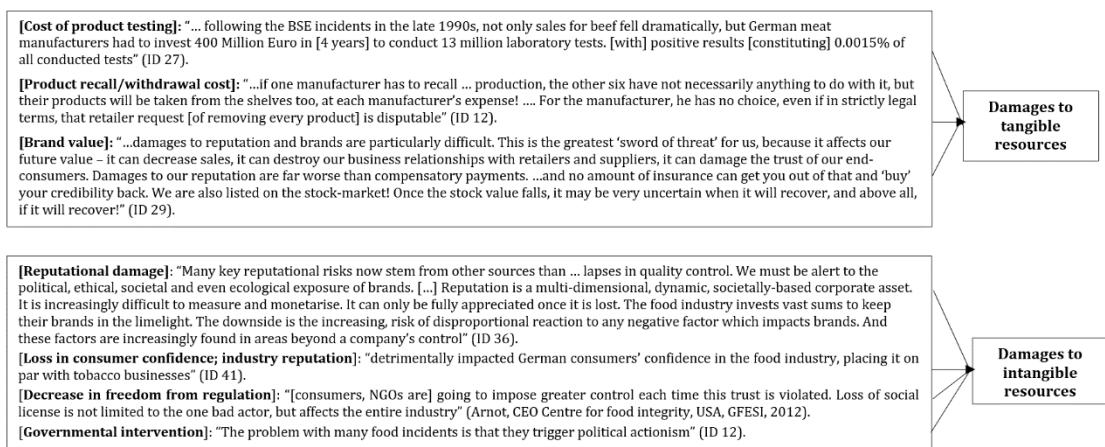


Figure 9.6. Damages to resources.

The identification of *impact* dimensions of risk is congruent with existing research (Harland et al., 2003; Cavinato, 2004; Sheffi & Rice, 2005) which, however, focused on identifying and ranking *discrete types of impact* from the perspective of a *single company* and often *equating* one type of impact with 'risk'. In contrast, empirical evidence from Chapter Five demonstrates that isolated treatments of discrete types of risk impact present a simplified view of how risk impact manifests in business networks. Specifically, the empirical evidence supports three findings, which refine our understanding of 'risk impact' in a business network context:

First, risk impact rarely manifests in a confined fashion. Instead, embeddedness of actors, resources and activities function as a conduit for the migration of risk impact and promote a contagious spread of damages. Migration of risk impact may result in seemingly distant actors experiencing damages to tangible and/or intangible resources from incidents emerging 'at the other end of the network', to which the affected actors had no direct relation. This finding is partly acknowledged in research by Harland, Brenchely and Walker (2003), Hallikas et al. (2004) and Manuji and Mentzer, (2008), who recognise the dynamics of risk impact in business interactions. Examining risk impact in a network context further highlights that direct and indirect business interactions function not only as conduits for accessing resources, but also as *conduits for the migration of risk impact* and potential *damages to resources*.

Second, risk impact is likely to *simultaneously* affect tangible *and* intangible resources. This is evidenced by simultaneous damages to tangible resources, such as costs incurred in recall and product re-design alongside damages to intangible resources, such as loss of consumer confidence or decreased regulatory freedom.

Third, the *same incident may result in different impact for different actors* in the network. For example, variable product quality from subcontractors who do not adhere to food safety regulations is likely to result in severe damages to German food retailers' financial performance and brand reputation, while less affecting the subcontractor, who may lose the retailer account yet continue operations with other customers.

The above discussion illustrates that adopting a business network approach refines our understanding of risk impact, because it illuminates that risk impact may migrate; simultaneously, it may affect a combination of tangible and intangible resources and affect actors in different ways. These findings demonstrate that it is difficult to accurately isolate and predict risk impact, which is conceptually captured in the *interdependency* of the third-order concepts 'impact' and 'uncertainty' in Figure 9.1. This conceptualisation reveals a richer understanding of 'risk', which is hardly reducible to an event with a static probability. To reflect these dynamics, the second-order concepts underpinning 'uncertainty' are not reduced to 'static descriptors' such as 'product risk' or 'legal risk'. Instead, the concepts of 'network complexity', 'product and process variability', 'variability in consumer perception' and 'legal ambiguity' carry a variable spectrum that give rise to the *uncertainty* of risk in business networks. This finding is congruent with McGoun's (1995, p.515) observation that "it is unquantifiable variation that creates uncertainty."

While the identified first- and second-order concepts are difficult to quantify, assuming those concepts away would not refine our understanding of risk or of how companies deal with risk. Indeed, the uncertainty-based conceptualisation of risk contributes in four ways to our understanding of risk in business networks: First, it addresses in empirical, conceptual and practical terms some of the concerns raised regarding the validity of probability-based conceptualisations of risk in business interactions. Second, it offers an initial step forwards developing an alternative, empirically informed conceptualisation of risk that is sensitive to companies' *interactions* in business networks. Third, this conceptualisation contributes to disambiguating and refining our understanding of risk and uncertainty in business networks, and offers impetus for further critical development of these concepts in network research. Finally, the uncertainty-based conceptualisation of risk offers an alternative foundation for understanding how companies deal with risk in business networks, which is discussed in the following section.

9.3 Dealing with risk in business networks: An institution-based explanation

The realization that companies consider uncertainty and impact in dealing with risk bears important implications for our understanding of *how* companies deal with risk. Existing research has left open the question of how companies deal with risk in webs of interdependent direct and indirect relationships, where risk can migrate and affect seemingly distant actors, resources and activities. Adopting a multi-actor unit-of-analysis and uncertainty-based conceptualisation of risk raises the following implications: Dealing with risk must consider *interactions beyond the confines of single companies* or *direct* relationships and must be sensitive to both uncertainty and impact.

To answer how companies deal with risk it is insufficient to analyse the empirical evidence from a business network perspective. While network research provides a relevant alternative

ontology of business markets and contributes conceptual tools for capturing a complex business reality, network research does not extend into the realm of systematically *explaining how* companies deal with risk. To inform our understanding of *how companies use a combination of institutional devices*, such as industry standards, General Terms and Conditions and framework contracts at three levels of network interaction, this discussion draws on institutional research. In this way, the thesis offers one of the first ventures in proposing an *institution-based explanation of how companies deal with risk in business networks*. The building blocks of institutional devices are not numeric algorithms, but *systems of rules* which are codified and shared through business artefacts. The term 'institution-based' explanation builds on terminology proposed by Peng (2002) and Peng et al. (2009), who advocate more systematic use of institutional research in the 'strategy tripod' in management and business studies, including business marketing. The 'institution-based explanation' of how companies deal with risk is a relevant contribution to a growing body of research that explores business marketing and network research from an institutional point of view (Owen-Smith & Powell, 2008).

The synthesis of network and institutional research provides the conceptual groundwork for the discussion of the empirical evidence presented in Chapters Six to Eight. The discussion of the institution-based explanation of how companies deal with risk proceeds in three steps: First, the discussion focuses on *how* companies use *institutional devices* - such as industry standards, GTC and framework contracts - for dealing with risk. Institutional devices provide companies with shared, parsimonious *rules* for interaction in the face of *uncertainty* and facilitate companies' protection of resources from *impact* (see Table 9.1). Second, the discussion highlights how companies actively *codify, monitor, enforce and adapt* institutional devices for dealing with risk. This finding is captured in Figure 9.7: The integrative framework of how companies deal with risk crystallizes the conceptual synthesis of network and institution-based research by mapping companies' use of institutional devices onto the three levels of network interaction. Third, the discussion illuminates how institutional devices facilitate dealing with risk *interactively* across direct and indirect relationships, because their manifestation in 'business artefacts' enables transcending geographic, legislative and time boundaries. Figure 9.8 conceptualizes this finding by integrating business artefacts into an extended version of the Actor-Resources-Activities (ARA) model in Figure 9.8).

The empirical findings on the use and content of the International Featured Standard, General Terms and Conditions and framework contracts in German retailer-manufacturer networks highlight *how* and *why* companies rely on the combination of such institutional devices for dealing with risk at three interdependent levels of network interactions: the network, focal and dyadic levels, respectively. These institutional devices offer parsimonious means for dealing with risk by limiting *uncertainty and impact*. Table 9.1 maps out how institutional

devices, such as the IFS, GTC and framework contracts address risk at the network, focal and dyadic levels of interaction. While the distinction between the three levels of interaction is a methodological device facilitating a systematic dissection of how institutional devices address uncertainty and impact of risk, it is vital to highlight that the power of institutional devices in dealing with risk rests in the reciprocal reinforcement that emerges through the *combined* use of standards, GTC and contracts. This finding is important, because existent research tends to investigate the content and use of *one* institutional device in isolation from relevant other devices (see for example Garud, Jain & Kumaraswamy, 2002; Blois, 2003; Mouzas, 2006). Yet, empirical evidence demonstrates that institutional devices are used in combination, because of the synergy effects that companies achieve by utilizing cross-referencing and the different reach and purpose of institutional devices. Table 9.1 offers a summary of how the IFS, GTC and framework contracts are used to address uncertainty and impact of risk by drawing on the uncertainty-based conceptualisation of risk developed in Section 9.2:

Table 9.1. The use of institutional devices for dealing with risk

	Limit uncertainty					Limit impact		
	Network complexity	Outcome variability	Process variability	Variable consumer perception	Legal ambiguity	Damages to resources	Transfer impact to business partner	Transfer impact to 3 rd party
Network-level: International Featured Standard (IFS)	<ul style="list-style-type: none"> - IFS provides global, <i>standardised</i> regulations for <i>all food production and retail processes</i> - IFS database enables global traceability and transparency - Globally uniform auditing, sanctioning and dispute resolution procedures - IFS benchmarking according to GFSI 	<ul style="list-style-type: none"> - IFS requires standardised outcomes according to legal and retailer specifications - Regular audits monitor compliance with outcome specifications - Non-compliance with legal or retailer specifications results in certification failure 	<ul style="list-style-type: none"> - IFS pioneered the standardisation of <i>process</i> requirements in the German food industry - IFS audits process compliance with legal, IFS and retailer specifications - Very detailed process specifications (see Chapter Six) 	<ul style="list-style-type: none"> - IFS contributes to enhancing consumer confidence in food safety/ quality - IFS database and the Sanctioning Committee reduce exposure of incidents to the public (→ detection of early signals and resolution of some incidents without public record) - IFS audits adapt to monitor compliance with changing retailer specifications, which change in light of shifting consumer perceptions (i.e. reduced MRLs) - IFS requires <i>global</i> compliance 	<ul style="list-style-type: none"> - IFS creates a transnational benchmark for all food businesses - IFS certification typically results in <i>compliance with all national and international food laws</i> 	<ul style="list-style-type: none"> - IFS records noticeable success in reducing food safety/quality incidents, regulatory issues and customer complaints - Internal resolution of incidents limits public exposure and damages to intangible resources 	<ul style="list-style-type: none"> - Certificate holder bears the costs and legal liabilities resulting from incidents to food safety/quality 	<ul style="list-style-type: none"> - Certification body and auditors bear impact resulting from overlooking non-compliance with IFS requirements - IFS Sanctioning Committee may intervene to regulate distribution of impact between auditee, certification body and auditor.

	Limit uncertainty					Limit impact		
	Network complexity	Outcome variability	Process variability	Variable consumer perception	Legal ambiguity	Damages to resources	Transfer impact to business partner	Transfer impact to 3rd party
Focal-level: General Terms and Conditions (GTC)	<ul style="list-style-type: none"> - GTC provide a <i>default</i> set of standardised, <i>globally valid regulations</i> across <i>multiple</i> interactions - High degree of <i>similarity across retailers' and manufacturers' GTC</i> - Unilateral design and change of GTC - GTC clauses explicitly <i>limit networking options</i> of business actors 	<ul style="list-style-type: none"> - GTC include detailed retailer/manufacturer specifications (MRLs; labelling etc.) - GTC typically require proof of certification (IFS or GFSI benchmarked) 	<ul style="list-style-type: none"> - GTC standardize processes by including modular attachments with standard requirements (i.e. BSCI, IFS) and require respective proof of certification - GTC request 1st, 2nd and 3rd party audits to regularly monitor and verify process compliance 	<ul style="list-style-type: none"> - GTC include specifications tailored to respond to consumer perceptions (i.e., MRLs, animal welfare) - GTC include 'information clauses' which regulate communications between the issuer of GTC, contract partner and consumer protection groups 	<ul style="list-style-type: none"> - GTC unilaterally provide the default set of regulations across national jurisdictions - GTC set a venue of jurisdiction and applicable law (which may explicitly define one and exclude other laws) - GTC supersede any business partners' GTC 	<p>Limit damages to in-/tangible resources:</p> <ul style="list-style-type: none"> (1) GTC define compensatory payments and fines (2) GTC allow immediate termination of contract (3) GTC may specify out-of-court dispute resolution procedures to settle without public record (4) GTC specify communication processes between the issuer of GTC, the contracting party and third parties, which allows control over public exposure (and expenditures in 	<p>GTC transfer impact to the contract partner by using clauses regulating:</p> <ul style="list-style-type: none"> (1) Claims for damages, recall and compensation (2) Product liability 	<ul style="list-style-type: none"> - GTC facilitate transfer of impact to 3rd parties by requesting the business partner to prove <i>insurance coverage</i>

	Limit uncertainty					Limit impact		
	Network complexity	Outcome variability	Process variability	Variable consumer perception	Legal ambiguity	Damages to resources	Transfer impact to business partner	Transfer impact to 3rd party
						product recall and consumer information)		
Dyadic-level: Framework Contracts	<ul style="list-style-type: none"> - Framework contracts establish a shared 'modus operandi' or 'private codifications' for future interactions - Address idiosyncratic needs of two parties - Framework contracts provide <i>default rules superseding GTC</i> - Increasing standardization of framework contracts 	<ul style="list-style-type: none"> - Framework contracts include attachments with product specifications 	<ul style="list-style-type: none"> - Requested compliance with industry standards (i.e., IFS, BSCI) - Pre-contractual 'information requests' screen for business partners' history and current compliance with process requirements (i.e., sustainability, employee welfare) 	<p><i>Same as above</i> with more detailed regulations regarding the communications and information policies for interacting with 3rd parties (media, NGOs, consumer groups, individual consumers)</p>	<p><i>Same as above</i></p> <ul style="list-style-type: none"> - In all matters, the framework contract supersedes GTC 	<p><i>Same as above</i></p>	<p><i>Same as above</i></p> <p>Depending on the negotiation, the clauses in the framework contract can be more co-operative (i.e. suggesting mutual negotiation in case of realized risks)</p>	<p><i>Same as above</i></p>

Table 9.1 demonstrates how institutional devices address uncertainty and impact of risk at three levels of network interactions. Reduction in uncertainty is primarily achieved through the *standardization* of multiple interactions over time and across geographical borders according to shared systems of rules, which channel multiple actors' behaviours into more predictable, and possibly preferred, patterns of activities that limit the occurrence of adverse events. In other words, by standardising multiple interactions, institutional devices limit the "choice set of ...actors and thereby reduce the uncertainty of the situation" (Beckert, 1996, p. 813). The analysis of how and why companies use institutional devices for dealing with risk confirms Beckert's conceptual argument that

"actors do not increase their calculative capabilities for determining probabilities in order to master uncertainty. Rather they, rely on social 'devices' and *restrict* their flexibility and create a *rigidity* in the responses to changes in an uncertain environment" (p.819, emphases in original).

Reduction in risk impact is achieved in two ways: By *limiting the occurrence of adverse events ex-ante* (through establishing and monitoring food safety regulations, for example) and by regulating *the distribution of risk impact*. Consequently, institutional devices facilitate dealing with risk by reducing uncertainty through *decreasing variability in interactions* according to previously agreed patterns and by regulating the distribution of risk impact. While existing institutional and network research recognises that the fundamental function of institutional devices is to reduce uncertainty (North, 1990; Koppenjan & Klijn, 2004; Peng, Sun, Pinkham & Chen, 2009), much less attention is devoted to understanding how institutional devices are used to create a 'liability regime' that protects resources from risk impact. Yet, it is the *combination of limiting uncertainty and impact* that make institutional devices efficient means for dealing with risk in business networks.

Table 9.1 articulates how exactly the IFS, GTC and framework contracts are used *interdependently to limit uncertainty and impact* of risk across direct and indirect interactions. The table presents original insights as it is grounded in the *interdependent* analysis of artefacts-*in-use* (instead of template documents). While existing research has focused on examining the issue of contracts for dealing with risk in *direct* business relationships, our understanding of how companies use institutional devices at higher levels of aggregation, such as the focal and network levels, remains limited (Ford & Mouzas, 2008). Systematically analysing the content and use of the IFS and GTC in Tables 9.1 and 9.2 contributes to our understanding of how two under-researched institutional devices perform interdependently with framework contracts in limiting risk at three levels of network interaction.

As detailed in Chapter Six, the IFS was deliberately deployed in an act of institutional entrepreneurship (Meyer, 2008) by a small group of German food retailers who aimed at limiting risk to food safety across the value chain. The outcome was the development of the

IFS, which allows any company choosing an IFS scheme to use a privately developed and globally valid certification system for dealing with risk at any stage of the food processing, manufacturing, packaging and retail business. In this way, the IFS *transcends* the confines of direct relationships and facilitates addressing “risks in the network [which] are dependent on the behaviour of the interconnected systems of companies” (Hallikas et al., 2004, p.7).

Specifically, the IFS facilitates dealing with risk by *codifying, monitoring and enforcing* standardised sequences of activities, responsibilities and liabilities for different parties (see Table 9.2). Additional tools, such as IFS Portal, IFS Integrity Committee and auditor training schemes further limit risk by establishing standardized records of actors' risk-related performance in relation to IFS criteria. By codifying and monitoring compliance with *standardized product and process specifications*, the IFS predefines “patterns of conduct which channel [interactions] in one direction against the many other directions that would theoretically be possible” (Berger & Luckmann, 1984, p.72). Simultaneously, the flexible nature of the standard enables rapid and efficient implementation of globally valid changes in light of ongoing experiences of dealing with risk.

Limiting *legal ambiguity* remains a key purpose of the IFS, since the EU and German legal systems simultaneously underwent profound reforms. Specifically, the IFS allows German food retailers and manufacturers to address risk emerging from existent ‘gaps’ and ‘loopholes’ in legislative practices. By setting up transnational standards, the IFS is designed to offer a standard set of ‘meta-rules’ that spans across a patchwork of different legislations. The benefit of using the IFS in dealing with legal ambiguity is twofold: First, it allows companies who set up the standard to “better represent and reflect the needs of the relevant players, their difficulties and possibly avenues of response than legislation” (Birnhack, 2004, p.3). Second, the IFS allows companies to apply these ‘meta-rules’ regardless of the legislative or geographic boundaries of network interactions.

In terms of limiting risk impact, the IFS evidences success in reducing the number of food safety incidents and operates on the basis allocating risk impact to the certification provider and certificate holder. For example, the certificate holder (auditee) bears impact from incidents to food safety, which may manifest in compensatory payments for damages to be paid to the retailer, payment of fines to inspection authorities and costs of re-certification or training. In cases where risk impact is transferred to a third party, such as the certification body and/or respective auditors, the party is charged by the IFS Sanctioning Committee (HDE) for overlooking non-compliance with the standard and may temporarily or finitely lose its license to operate.

The reason for discussing first how the *IFS* limits both uncertainty and impact of risk is that GTC and framework contracts *reference* the IFS, among other standards, and in that way

render compliance with the IFS *legally binding*. This mechanism for legally enforcing 'voluntary' standards in private contracts (such as GTC or framework contracts) rests on the "constitutional principle of private autonomy ... [which gives] authorization for designing private transactions" (Schanze, 2007, p.171). This observation is important for two reasons: On the one hand, it demonstrates the relevance of researching institutional devices *in context of each other*, as these are used inter-dependently and often designed to reinforce each other. On the other hand, it becomes increasingly impossible to understand the content of GTC or framework contracts without the reference to external standards such as the IFS.

At the focal level, GTC allow actors to unilaterally define sets of default rules for dealing with risk in a way that transcends direct dyadic relationships. GTC provide a default set of *standard* regulations that are valid globally between *directly* connected actors, such as retailers and manufacturers *and indirectly* connected actors, such as retailers and a manufacturer's suppliers. Existing research predominantly focuses on dyadic contracts and offers limited insight into the content and uses of *GTC-in-use* in business marketing in general, and particularly in the context of dealing with risk. An exception offers the research by Mouzas and Furmston (2008, p.42), who find that GTC "are used to pass on risks and liabilities to other contractual parties." This is congruent with the evidence presented in Table 9.1, which shows that GTC limit *risk impact* by *transferring* impact either directly to a contracting party or indirectly, by involving third parties such as insurances. Transfer of risk impact typically manifests in clauses regulating the payment of damages, costs of product recall and testing, or product liability fines.

However, beyond mere transfer of risk *impact*, the empirical evidence offers two original insights into how GTC facilitate dealing with risk: The first insight relates to the standardised content of GTC *across* different retailers and manufacturers, which contributes to limiting uncertainty in direct and indirect interactions across the wider network. Despite the legal freedom available to actors who can unilaterally design GTC, the striking similarity across GTC demonstrates that GTC derive their power from limiting uncertainty through *standardization* of interactions across multiple actors, which explains the high degree of deliberate convergence among different retailers' and manufacturers' GTC. The *standardization* of GTC offers a mechanism for providing a predictable, industry-wide scaffolding of rules within which all actors, irrespective of their geographic location, operate. Considering that a major source of uncertainty in networks emerges from the complexity and contingency of network interactions, as "any company's action is contingent on the action, reactions, as well as perceptions of others within the business network that the company is embedded in" (Oeberg, Henneberg & Mouzas, 2012, p.1270), GTC offer an efficient way of channelling interactions between high numbers of actors into previously agreed, foreseeable patterns.

For example, GTC limit uncertainty emerging from *legal ambiguity* by offering a set of default rules across several jurisdictions, by defining one preferred jurisdiction and out-of-court dispute resolution procedures. Another way in which GTC limit uncertainty is by way of limiting product and process variability across the operations of multiple actors and product touchpoints by including modular references to standard requirements, such as the IFS or the BSCI. In this way, standards function like 'institutional modules' (Schanze, 2007, p.179), which can be 'plugged' into the GTC "with the assurance that they 'function' whenever the contingency arises" (ibid). Moreover, by 'plugging-in' industry standards into the GTC, actors constrain not only the outcomes at which other actors' behaviours should be directed but also the means by which those ends are achieved, as the IFS meticulously regulates activities related to the certification requirements.

The second insight addresses the question of *how GTC transcend* the confines of direct interactions to facilitate dealing with risk in indirect interactions. The wide reach of GTC is instituted in three types of GTC clauses that ensure the terms and conditions become the exclusive basis for interactions in direct *and* indirect relationships (see Chapter Seven for a detailed account). These clauses include the provision that the *issuer's GTC are the exclusive basis for direct and indirect interactions*; the provision regulating sub-contracting and specifying eligible partners; and provisions stating the issuer's auditing rights. Through standardization and high reach, GTC offer parsimonious devices for dealing with risk within the modest confines of one to five pages.

The analysis of how companies use framework contracts for dealing with risk in Table 9.1 illustrates the strong similarities between framework contracts and GTC. In addition to the standardisation of interactions, framework contracts facilitate dealing with risk by offering a shared platform to address risks *idiosyncratic* to direct dyadic interactions. Moreover, the findings illustrate that contracts do not function in isolation but close interdependency with GTC and standard specifications. Similar to GTC, framework contracts often include modularised references to preferred standard schemes and product specifications, which are monitored through first-, second- and third-party audits specified in the framework contract, the GTC and the standard regulations. By contextualising the analysis of framework contracts in light of other institutional devices, this research illuminates new ways in which companies use contracts for dealing with risk.

Having established *how* institutional devices facilitate dealing with risk in direct and indirect interactions, this discussion substantiates the institution-based *explanation* of how companies deal with risk by drawing on the critical realist logic of 'causal mechanisms' (Sayer, 1992; Easton, 2010). This research examines the concept of 'rules' as a causal mechanism operating at the heart of the institution-based explanation. The articulation and ascription of causal powers to rules helps distinguishing between the concepts of rules and institutions, and

elevates the institution-based explanation from a descriptive to a conceptual level. Drawing on the critical realist concept of causal explanation, the remainder of this section dissects the causal powers of rules to explain *why* institutional devices facilitate dealing with risk. To recall, “a causal explanation is one that identifies the objects and their mechanisms and the way they combine to cause events” (Easton, 2002, p.105). Applying the logic of outcome, context and mechanisms (Pawson & Tilley, 2013), the findings suggest that the *outcome* of reduced uncertainty and risk impact in the *context* of using institutional devices in retailer-manufacturer networks rests on the causal mechanism of *rules*, which form the building blocks of institutional devices. Ascribing ‘powers’ to rules is “to say something about what it *will* or *can* do, in the appropriate conditions, in virtue of its *intrinsic* nature” (Tsang & Kwan, 1999, p.762, emphasis added).

In the context of this research, rules are referred to as a parsimonious, socially transmitted order taking the form of “in circumstances X do Y” (Hodgson, 2006, p.3), which can be used to constrain the choice set of actors and to *channel future interactions between multiple actors across time and space* in agreed ways. The following list articulates a list of causal powers inherent to rules, which form the ‘mechanism’ explaining the use of institutional devices in dealing with risk:

- 1) Rules are *parsimonious devices* that gain relevance in contexts where *multiple actors* need to interact in complex environments with limited resources. Rules would not need to exist if each actor existed in a vacuum and resources were available in abundance. Rules are necessary in an environment of limited resources and multiple actors who compete for and who protect resources under limited knowledge of the future.
- 2) Rules reduce the complexity of future interactions by excluding ex-ante certain actors and sets of potential actions (Ostrom, 2005), which reduces complexity and variability in network interactions.
- 3) Rules facilitate the *collective adaptation* under conditions of uncertainty (cf. Hayek, 1973, p.50).
- 4) Rules are dynamic entities that reflect actors’ sedimented experience. Changes to rules tend to occur incrementally in light of actors’ experience and learning from precedent cases.
- 5) While rules structure the behaviour of actors, in interaction, rules are also formed by actors (cf. Koppenjan & Klijn, 2004, p.76).
- 6) Rules do not exist in isolation but are contextually contingent and often operate interdependently with other rules.
- 7) In contrast to norms, rules rely on *explicit agreement* and *codification* of principles.
- 8) *Codifying rules* yields the benefits of *defining the actors sharing the rules, identifying breaches of rules* and *explicitly communicating monitoring and enforcement activities* (see

Table 9.2). Codifiability contributes to the objectification of rules, which elevates interactions between two or more actors beyond the subjective realm of individuals. In this way, rules have the capacity to transcend *direct interactions* between actors.

- 9) Rules promote predictability and efficiency in interactions between multiple actors, particularly when rules are *replicated* across multiple interactions.
- 10) Rules are not neutral principles regulating interactions. Instead, rules are *invested with interest of the parties creating the rules*.
- 11) Codification of rules does not necessarily guarantee that all actors understand the rules equally and (inter-)act in compliance with them. Rules and performance may vary, which draws attention to the danger of conflating “the rule with its enactment” (D’Adderio, 2008, p.14).

Building on this understanding of rules informing the institution-based explanation of how companies deal with risk in business networks, the following section discusses the integrated framework (Figure 9.7), which conceptualises the institution-based explanation.

9.3.1 Integrated framework: Dealing with risk in business networks

The preceding section established *how* and *why* institutional devices facilitate dealing with risk by zooming in to the heart of institutional devices: the concept of rules. While the parsimony of rules is a strength of using institutional devices for dealing with risk in complex network interactions, empirical evidence and existing research demonstrate that rules become consequential only when enacted through monitoring and enforcement activities (Ostrom, 2009; D’Adderio, 2011). Analysing evidence on the content and use of the IFS, GTC and framework contracts highlights that companies invest in *codification, monitoring, enforcement and adaptation* of institutional devices, considering ongoing experience in dealing with risk in direct and indirect interactions. Figure 9.7 offers an integrated conceptualisation of companies’ use of institutional devices at three levels of network interaction:

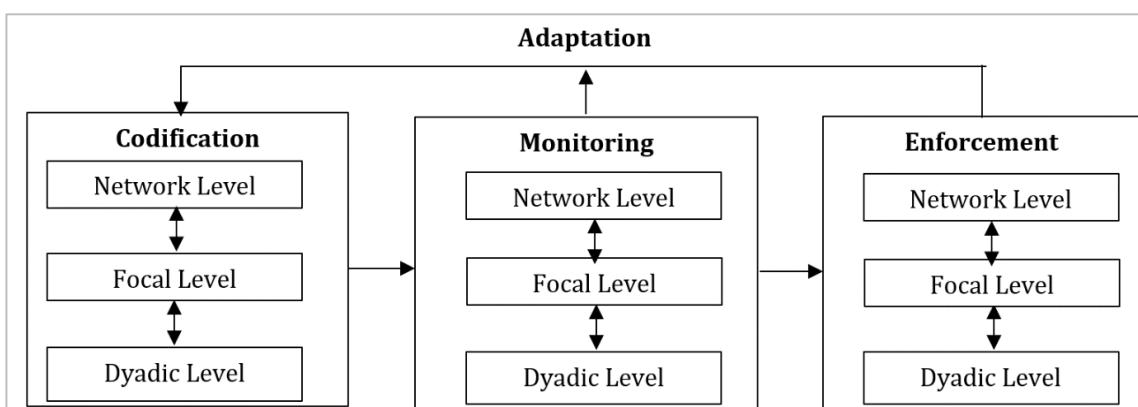


Figure 9.7. Integrated framework: Dealing with risk in business networks.

Figure 9.7 transforms the empirical evidence of how companies deal with risk into theoretical terms: By combining the conceptual idea of network, focal and dyadic network interactions with the *codification-monitoring-enforcement and adaptation* of institutional devices, the framework articulates an institution-based explanation of how companies deal with risk in business networks.

While existing research emphasises that “networks and institutions mutually influence one another” (Owen-Smith & Powell, 2008, p.599), it is recognised that

“we know relatively little about the specific dynamics within and between these different institutional layers [and that] more analytical concepts that integrate structural features of these different layers with relational and process approaches need to be developed in order to discern interactions between the different layers” (Djelic & Quack, 2008, p.317).

The integrated framework in Figure 9.7 addresses this observation by offering a systematic approach to understand how actors use industry standards, GTC and framework contracts in interaction with each other. The double-arrows between the dyadic, focal and network levels of interactions indicate the embeddedness and interdependency of companies’ use of institutional devices.

The empirical evidence on codification, monitoring, enforcement and adaptation of institutional devices corresponds with a more fragmented treatment of these activities in existing institutional research, most notably Elinor Ostrom (2009, p.269), who lists these activities, among others, as ‘institutional principles’. Table 9.2 substantiates the integrated framework presented in Figure 9.7 by offering illustrative evidence of how codification, monitoring, enforcement and adaptation manifest in the use of the IFS, GTC and framework contracts in retailer-manufacturer networks:

Table 9.2. Integrated framework: Dealing with risk in business networks.

	Codification	Monitoring	Enforcement	Adaptation
Network-level: International Featured Standard (IFS)	<ul style="list-style-type: none"> - Written standard catalogues of 150 pages; records of previous versions - IFS Doctrines - IFS Newsletter; e-mail updates - Audit reports and certificates - IFS Database Portal 	<ul style="list-style-type: none"> - Announced and unannounced 3rd party audits by auditors from IFS approved Certification Bodies - 3rd party audits monitor quality of 1st party audit (requested in GTC and framework contracts) - Witness and surveillance audits monitor the performance of 3rd-party auditors - Continuous monitoring of past, present and potential business partners' performance through IFS Database Portal 	<p>Gradual sanctions towards the <i>contracting partner</i>:</p> <ul style="list-style-type: none"> - Delay or withdrawal of certificate - IFS Sanctioning Committee may temporary or finitely delist certificate holders - 'Blacklisting' of contracting partner in IFS Database <p>Gradual sanctions towards <i>certification bodies or individual auditors</i>:</p> <ul style="list-style-type: none"> - Request for additional auditor training at IFS Academy - Payment of fines to IFS and/or auditee - Temporary or finite suspension of certification body or auditor(s). 	<p>The IFS is adapted in response to precedent cases, which may originate from:</p> <ul style="list-style-type: none"> - <i>Precedents affecting food safety and/or quality</i> - <i>Legal or technical developments</i> <p>Three ways of standard adaptation:</p> <ul style="list-style-type: none"> - Adaptations within an existing standard version - Launching a new standard version - Addition of a new standard scheme <p>Changes to IFS standards are communicated via:</p> <ul style="list-style-type: none"> - IFS newsletter - IFS e-mail - IFS Database Portal
Focal-level: General Terms and Conditions (GTC)	<ul style="list-style-type: none"> - GTC comprise 1-4 pages - Attachment of BSCI standard (1-2 pages) - Attachment of product specifications - Request for information questionnaire - GTC agreement via 'silent concurrence of will' (no signature) - Changes to GTC must be in writing 	<p>GTC monitoring requests:</p> <ul style="list-style-type: none"> - 3rd party audits (i.e. IFS, BSCI) - Regular test results from specified laboratories - 2nd party audits (performed by issuer of GTC) - Verification of 1st party audits 	<p>GTC Legal enforcement:</p> <ul style="list-style-type: none"> - GTC define the preferred court(s) of jurisdiction in case of litigation <p>GTC non-legal enforcement:</p> <ul style="list-style-type: none"> - Gradual financial penalties (compensatory payments, fines) - Temporary de-shelving; de-listing - Temporary or finite (immediate)contract termination 	<p>GTC are adapted in response to precedent cases, such as</p> <ul style="list-style-type: none"> - Incidents to food safety/quality (i.e., horsemeat incident) - Changes in legal regulations (i.e., traceability requirements) - Consumer/market trends (i.e., accusation of discounter stores over social exploitation of workforce outside the EU) <p>GTC are typically adapted in two ways:</p>

	Codification	Monitoring	Enforcement	Adaptation
	<ul style="list-style-type: none"> - Attachment of letters or e-mail confirming agreement to changes. - Severability clause (preserves the validity of all clauses if one clause is changed) 			<ol style="list-style-type: none"> 1. Incremental changes to clauses within the document 2. Attachment of additional terms and requirements to existing GTC (i.e., BSCI) <p>Changes to GTC are communicated directly by distribution the latest GTC version by(e-)mail</p>
Dyadic-level: Framework Contracts	<ul style="list-style-type: none"> - Framework contracts comprise 4-9 pages - Attachment of BSCI standard (1-2 pages) - Contract agreement sealed with signatures - Changes to framework contract must be in writing - Severability clause (preserves the <p>Attachment of</p> <ul style="list-style-type: none"> - Letters or e-mail confirming agreement to contract changes. - Product specifications (varying between 20-100 pages) - Insurance policy confirmation - Certification according to requested standard (i.e. IFS, BSCI) 	<p>Framework contracts <i>repeat</i> all GTC monitoring requirements and in addition request access to contracting party's 3rd party audit reports performed by German and/or European food authorities.</p>	<p>Similar combination of legal and non-legal enforcement as in GTC, plus additional provisions for non-legal enforcement:</p> <ul style="list-style-type: none"> - Specification of private negotiation and arbitration arrangements to avoid public litigation in court - Private 'blacklisting' of contracting partner following contract termination 	<p>Framework contracts are adapted in response to precedent cases, which may be idiosyncratic to the relationship</p> <p>Framework contracts are typically adapted in two ways:</p> <ul style="list-style-type: none"> - Annual re-negotiation and subsequent incremental adaptation of framework or transaction terms - Attachment of new requirements (i.e., new product specification; standard requirements) <p>Changes to framework contracts are communicated directly in face-to-face negotiations and in writing via (e-) mail. Requirement for mutual signature for changes to become effective.</p>

The value of the integrated framework rests in highlighting that codification, monitoring, enforcement and adaptation occur *interdependently* at multiple levels of interaction and can be better understood in context of each other. This finding offers empirical substance to the conceptual argument in existing research, suggesting that the network, focal and dyadic levels of interactions are interdependent and must be studied in context of each other (Moeller & Halinen, 1999; Lomi, Negor & Fonti, 2008; Yang & Su, 2014). Similarly, this finding extends previous research, which confined analysis of institutional devices to one level of interaction, predominantly focusing on contracts.

Focusing on codification, monitoring, sanctioning and adaptation is critical to understanding how companies use institutional devices for dealing with risk, because it demonstrates that institutional devices are not static but actively developed devices. Codification is important, because it enables sharing and replicating institutional devices across direct and indirect interactions (Hodgson, 2006; Kadens, 2012). *Codification* can manifest in actors' writing, revising standards or contract clauses or attaching new specifications. By codifying rules, actors formulate action situations and outcomes that *limit uncertainty* across multiple (future) interactions and *regulate the distribution of impact*, in this way addressing risk in network interactions.

To verify compliance with the codified rules, actors rely on the interdependent use of first, second and third-party *monitoring* activities, which typically manifest in inspections and audits. The power of monitoring activities rests in the looming *enforcement* of codified rules by way of mobilising legal and non-legal sanctions. The illustrative evidence in Table 9.2 confirms existing research on the types and interdependent use of legal and non-legal sanctions (for example, Charny, 1990; Jolls, 1997; Carson, Madhok & Wu, 2006). Consistent with existing research, the empirical evidence confirms that non-legal sanctions such as payment of damages or potential contract termination and loss of future business offer stronger enforcement (Mouzas & Furmston, 2008).

While standardization and stability of institutional devices was highlighted as a key feature in limiting uncertainty (see Table 9.1), Figure 9.7 draws attention to the observation that actors incrementally adapt institutional devices in light of precedent cases that may be observed during the monitoring of enforcement stages. This observation confirms existing research suggesting that institutional devices are dynamic (Grewal & Dharwadkar, 2002) and offer "contrived and transient solutions to problems...experimental and pragmatic, [subject to] a process of trial and error in search of workable solutions" (Van de Ven, 1993, p.150). Continuous adaptation of institutional devices aims at "closing off any source of systematic future error" (Epstein, 2004, p.12) and has been illustrated throughout Chapters Six, Seven and Eight, describing how and why companies engage in adapting the IFS, GTC and framework contracts.

9.3.2 The use of business artefacts in dealing with risk

This discussion draws our attention to the relevance of analysing and integrating business artefacts-in-use into our understanding of how companies deal with risk. Instead of treating industry standards, GTC and contracts as 'institutional context' for business interactions (for example, Grewal & Dharwadkar, 2002; Peng, Sun, Pinkham & Chen, 2009) this research analyses business artefacts-in-use as *strategically designed institutional devices* for dealing with risk. To date, limited empirical research exists on the structure, content and uses of business artefacts, particularly with regards to industry standards and GTC. While there is a body of research focusing on the use of (umbrella) contracts (Mouzas & Ford, 2006; Mouzas & Furmston, 2008), there is no evidence of a systematic approach considering the *interdependent* use of several business artefacts in embedded business interactions. Yet, the proposed institution-based explanation of dealing with risk in business networks fleshes out the central role of business artefacts as 'o-rings' (Suchman, 2003) and *carriers of institutional devices* that transcend temporal, geographic and legislative boundaries in network interactions (Meyer, 2008). This finding has informed the extension of the actor-resources-activities (ARA) model (Håkansson & Johanson, 1992, p.29):

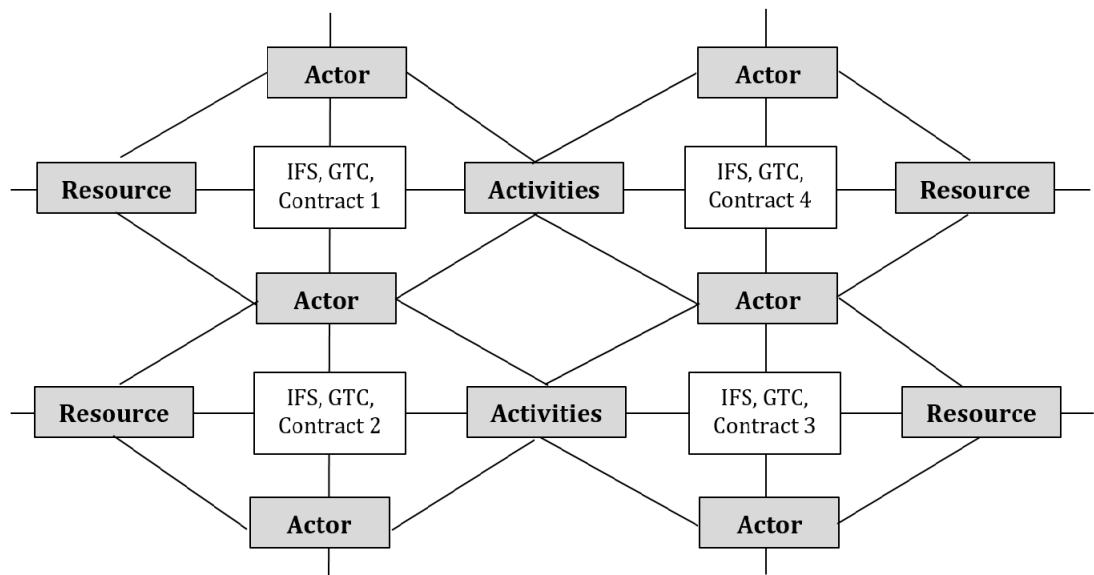


Figure 9.8. Extended ARA-model: The use of business artefacts in dealing with risk.

While the existent version of the ARA-model is an invaluable conceptual tool in network research, the original ARA-model does not capture the embeddedness and interdependency of dyadic, focal and network interactions. The extended ARA-model illustrated in Figure 9.8 captures the central role of business artefacts in network interactions and demonstrates how such artefacts transcend direct dyadic interactions. The extended ARA-model illustrates how the combined use of business artefacts orchestrates business interaction between multiple actors (i.e., retailers, manufacturers, laboratories), interdependent activities (i.e.,

manufacturing, packaging, recalling) and resources (i.e., production capacity, laboratory facilities). The findings support Suchman's observation (2003, p.114) that "the greater the number of players, the greater the importance of having a cognitively tractable reference document that can link the individual parts into a coherent and meaningful whole." This is accomplished, for example, when contracting parties agree that any of their subcontractors will adhere to the same industry standards and GTC. The ensuing 'cascading effect' (Johnsen, Lamming & Harland, 2010) explains how institutional devices are used in dealing with risk *beyond* direct interactions. Chapter Six on the use of the IFS and Chapter Seven on the use of GTC for dealing with risk describe which standard and GTC clauses ensure direct and indirect dissemination of artefacts beyond the confines of direct interactions. In methodological terms, this finding demonstrates the relevance of analysing different sets of business artefacts as devices for capturing network interactions beyond dyadic relationships, such as focal and network interactions.

9.4 Conclusion

Building on an uncertainty-based conceptualisation of risk, this chapter has discussed an institution-based explanation of how companies deal with risk. This explanation is grounded in the analysis of companies' use of industry standards, GTC and framework contracts as *institutional devices* that facilitate dealing with risk by addressing both uncertainty and impact at three levels of network interaction. The empirical evidence demonstrates that companies engage in an adaptive process of codification, monitoring and enforcement considering their ongoing experience. Figure 9.7 captures this adaptive process.

The following chapter builds on this discussion by articulating the thesis' theoretical, methodological and practical contribution.

CHAPTER 10

CONTRIBUTION AND IMPLICATIONS

CHAPTER 10. CONTRIBUTION AND IMPLICATIONS

10.1 Introduction

The previous chapter confronted the empirical evidence with relevant theoretical approaches and developed answers to the thesis' research questions. The outcomes of this discussion are threefold:

First, the findings highlight the relevance of risk in business marketing research and provide a first step towards developing an alternative, *uncertainty-based conceptualization of risk*. This outcome emerges from adopting a multi-actor unit-of-analysis, which captures the embeddedness, interdependency and complexity of network interactions within which companies encounter and deal with risk.

Second, the findings support the development of an *institution-based explanation* of how companies deal with risk. This explanation draws on the empirical evidence of companies using a combination of institutional devices, including industry standards, General Terms and Conditions, and contracts for dealing with risk in multi-actor settings. The heart of the institution-based explanation forms the causal mechanism of 'rules' that constitute the building blocks of institutional devices.

Third, the findings concretize research on institutional devices by zooming in on the content and use of *business artefacts-in-use* as primary data from a methodological standpoint.

Building on these findings, this chapter identifies how this thesis contributes to research on risk in business marketing in theoretical, methodological and practical terms. Theoretical contributions presented in Section 10.2 articulate how this research enhances our understanding of how companies deal with risk in business networks in light of existing research in this area. The methodological contributions presented in Section 10.3 focus on two ways in which this research enriches our understanding of *how* we research network phenomena. Finally, practical implications for marketing professionals and educators are discussed in Section 10.4. The final section, 10.5, identifies the thesis' limitations and proposes directions for future research.

10.2 Theoretical contribution

The thesis generates two contributions that enhance our theoretical and conceptual understanding of how companies deal with risk in the field of business network research and the wider discipline of business marketing.

First, this research draws attention to risk as an important *empirical and conceptual* problem for marketing scholars. Existent research appears to have consistently overlooked the relevance of risk in the context of business marketing, or has treated the phenomenon uncritically by adopting the conventional probability-based approach. However, closer

examination of seminal research on risk by early institutionalists (Knight, 1921; Hardy, 1923; Fisher, 1930) reveals that today's widely accepted probability-based approach to risk in business and management research was severely questioned and known to make "no sense" (McGoun, 1995, p.514) once it was considered in a context of strategic, multi-actor interactions. In fact, the literature review (Chapter Two) reveals that probability-based approaches to risk originate from mid-20th Century mathematicians' efforts to quantify economic phenomena, and later cemented its way into finance research, which became "*the science of the quantification of uncertainty*" (Boy, 2015a, p.6, emphasis in original), and "in the absence of a better approach" (Domar & Musgrave, 1944, p.393) became the conventional approach to risk adopted in wider business and management research.

Taking the critique of probability-based approaches to risk seriously and substantiating this initial idea with empirical research results in this thesis proposing an alternative, *uncertainty-based conceptualisation of risk* that more accurately reflects real-life manifestations of risk in business networks. In this regard, the thesis *builds on* the initial idea of uncertainty-based approaches to risk voiced by institutional scholars and *develops this idea* further by suggesting how we can possibly *conceptualize* an uncertainty-based approach to risk. The value of this conceptualisation is threefold:

- a) In suggesting an initial uncertainty-based conceptualisation of risk, this research addresses the frequently observed fallacy in existent research, which exposes the *interchangeable* use of the concepts of 'risk' and 'uncertainty'. This fallacy is likely the product of recognizing that a purely probability-based approach does not do justice to the complexity of the phenomenon; and the simultaneous *absence* of a practicable alternative. Addressing this dilemma may yield the benefits of building a more *systematic body of research on risk* and generating research that more accurately reflects empirical manifestations of risk, and therefore is of greater relevance to managerial practice.
- b) While this thesis offers only an initial step towards developing an uncertainty-based conceptualisation of risk, it may provide a starting point for future research that may take up the challenge of generating a more accurate conceptualisation. Refining the conceptualisation of risk with the objective of providing an 'instrument' for future research to understand empirical phenomena in a more structured way is crucial to advance research on risk, as otherwise, researchers may be tempted to adopt a probability-based conceptualisation simply for reasons of convenience, conceptual measurability and 'the absence of a better approach'. The initial success of probability-based risk conceptualisations, despite the serious critiques, is likely to have emerged not only from the desire to use 'quantifiable' data to add 'credibility' to economic and business research on risk, but also from the *absence of useful uncertainty-based conceptualizations*. In other words, the critique was forgotten because it did not offer a *viable alternative*. After

almost a century of probability-based research on risk, it is time to not only reinforce the critique considering new empirical findings but also to suggest an alternative approach to risk in the context of business marketing research.

- c) Considering an uncertainty-based conceptualisation of risk is crucial for *steering academic research alongside practical developments* in this area in order to ensure the long-term relevance of research for marketing practice. For instance, the ISO Guide 73 on "Risk Management" (2009) recently *replaced the probability-measure* of risk by defining risk as "the effect of *uncertainty* on objectives" (emphasis added). Yet, almost six years past this change, the implications of this change have hardly resonated in academic research.

The second theoretical contribution constitutes the development of an *institution-based explanation of how companies deal with risk* in business networks. This sheds light on the overlooked question of how companies deal with risk in webs of *direct and indirect* business interactions and emerges as a logical step from adopting an *uncertainty-based* approach to risk. In contrast to previous research founded in a probability-based approach to risk, and assuming the possibility of 'risk management' from a *single actor's* perspective by way of *unilateral action*, this research assumes a different view. Specifically, this thesis develops an *uncertainty-based* conceptualisation of risk and examines how companies deal with risk in *multi-actor settings* of embedded direct and indirect business interactions. Theoretically, this research is informed by integrating network and institutional research.

While research adopting the *business network* approach to markets provides the ontological and conceptual groundwork for a more accurate understanding of companies' real-life environments by capturing companies' embeddedness, *institutional research* offers an *explanatory* lens for examining *how* companies use institutional devices for dealing with risk in business networks. Both approaches share a critical set of assumptions, which is a prerequisite for "building theory by combining lenses" (Okhuysen & Bonardi, 2011) and for gaining a more accurate understanding of the empirical evidence.

By developing this theoretical synthesis in synchronisation with the thesis' empirical evidence, this research ventures to contribute to a recent and growing body of literature emerging at the *intersection of network and institutional research* (Owen-Smith & Powell, 2008; Deligonul et al., 2013; Yang & Su, 2014). This step is aligned with the call to capitalize on theoretical integration by combining "multiple theoretical lenses to develop new explanations of management [and marketing] phenomena" (Okyhuysen & Bonardi, 2011, p.11). The outcome of this effort is the proposition to assume an *institution-based approach* to dealing with risk in business networks, which considers the use of institutional devices for dealing with risk in direct and indirect relationships. Such an *institution-based explanation has not been suggested in business marketing research and even wider research in the field business and management studies to date*. This approach draws attention to an alternative way of

dealing with risk that takes an uncertainty-based and multi-actor approach to risk seriously, and which allows us to address the under-researched question of how companies deal with risk in direct *and* *indirect* interactions.

This thesis substantiates the institution-based explanation of how companies deal with risk *with rich empirical evidence*. The value of underpinning theoretical development with empirical research lies in the power of the analysis process, whereby empirical evidence informs further refinement and development of the theoretical synthesis. The outcome of this iterative process is the development of the integrated framework (Chapter Nine, Figure 9.7) depicting how companies use institutional devices for dealing with risk at three interdependent levels of interaction. This framework transforms the empirical insights of how companies deal with risk into theoretical terms: By combining the conceptual idea of multiple levels of network interactions with the *adaptive* use of institutional devices through *codification, monitoring and enforcement* activities, the framework articulates an institution-based explanation of how companies deal with risk in business networks.

The integrated framework contributes to the recent stream of research operating at the intersection of network and institutional research by mapping - for the first time - the use of institutional devices onto *three, inter-dependent levels of network interactions*: Network, focal, and dyadic interactions. The adaptive activities of codifying, monitoring and enforcing institutional devices were identified in a more fragmented way in previous institutional research, most prominently articulated by Elinor Ostrom (2009, p. 269), who developed a *list* of institutional principles of enduring institutions. Ostrom's list provided an initial idea for analysing the use of institutional devices and has contributed to the development of the integrated framework.

While previous research emphasized that "networks and institutions mutually shape one another" (Owen-Smith & Powell, 2008, p. 594) and repeatedly advocated the importance of *multi-level analyses of business interactions* as essential for understanding the dynamics and embeddedness of business networks (Halinen et al., 1999; Ford & Håkansson, 2006), few studies ever ventured beyond conceptual advocacy. In this regard, this thesis makes an *important contribution in fleshing out, empirically and conceptually*, how institutional devices - manifested in the use of industry standards, GTC and framework contracts - play a key role in dealing with risk in *direct and indirect* business relationships, by spanning the levels of network, focal and dyadic interactions across time and space.

In proposing an institution-based explanation, this research also demonstrates the relevance of conceptually integrating *business artefacts* as strategic, institutional devices into our understanding of how companies deal with risk in business networks (see Chapter Nine, Figure 9.7). In contrast to viewing standards and contracts as mere *contexts* for business

interactions, this thesis analyses the development and use of business *artefacts-in-use* as strategically designed institutional devices for dealing with risk.

Analysis of the content and uses of business artefacts is limited and highly dispersed across several research streams that appear to progress on very different trajectories, often investigating contracting (Mouzas, 2006; Mouzas & Blois, 2013) in isolation from the use of industry standards (Garud, Jain & Kumaraswamy, 2002) or GTC (Blois, 2006). Apart from an *isolated analysis* of these institutional devices, it is even more surprising to observe that it is typical for such research to overlook relevant links to institutional research. Within both - network and institutional research - analysis of business artefacts and particularly of artefacts-*in-use* is rare and is typically performed in a way that does not allow for a contextual understanding of how these artefacts are used interdependently. Moreover, existent research on the use of business artefacts such as contracts or standards tends to provide a 'snapshot view' without considering *how and why* artefacts may change over *time*. In this respect, this thesis contributes to the fields of network and institutional research, as well as the broader discipline of business marketing, by *introducing business artefacts as centre pieces into business interactions*, and *articulating for the first time how different business artefacts are used interdependently*, spanning multiple levels of business interaction.

This thesis moves beyond a static analysis of business artefacts-*in-use* by illuminating the dynamics of *how and why* institutional devices change over time. This analysis is substantiated, where possible, with accounts of how, why and who developed the institutional devices and how and why such devices are shared across the network and subjected to change over time. Specifically, the analysis of how business artefacts are shared and changed over time are, for the first time:

- a) Articulated at three levels of analysis, fleshing out the interdependency between how changes made at one level may influence changes at other levels; and
- b) Grounded in the analysis of artefacts alongside other primary empirical evidence.

Finally, the thesis substantiates the institution-based explanation of how companies deal with risk by drawing on the critical realist understanding of 'causal mechanisms' (Sayer, 1992; Easton, 2010). Specifically, this research identifies 'rules' as a causal mechanism operating at the heart of the institution-based explanation. The researcher suggests examining the 'causal powers' and 'liabilities' inherent in rules, which form the building blocks of institutional devices. Identifying rules' causal powers and liabilities enhances the value of the *institution-based explanation of how companies deal with risk in business networks* by enabling this research to extrapolate its findings by way of *analytical* (or theoretical) *generalization* (Sayer, 1992). Moreover, the ascription of causal powers to *rules* helps to clearly distinguish between two distinct concepts - rules and institutions - and in this way, *contributes to advancing a*

resolution of an ongoing debate regarding the similarity of these two concepts and several attempts to collapse the two concepts into one, or using the terms interchangeably (Jepperson, 1991; Hodgson, 2006).

Moving into the realm of a causal explanation helps to elevate this research beyond the *descriptive scope*. The identification of the causal mechanism of 'rules' emerged from deliberately analysing the content and use of institutional devices - including the use of standards, GTC and contracts – *through the lens of institutional research*. This is one of the few ventures in the field of business network research where the examination of business artefacts-in-use is linked to fundamental institutional concepts. Going back to the foundations of institutional research and revisiting progress on the ongoing debate about the differences between 'rules' and 'institutions' illuminated how, in fact, 'rules' possess inherent causal powers, which helps in explaining *why* institutional devices work in the way they do.

10.3 Methodological contribution

The thesis raises two methodological contributions of relevance to business network and marketing research: One contribution rests in the investigation of multiple, inter-dependent levels of business network analysis. The other contribution highlights the benefits to be gained from analysing *sets* of business *artefacts-in-use* as primary data sources to enhance our understanding of business networks.

The first contribution rests on the acknowledgement of the limitations of research investigating network phenomena at *one level of analysis* and the active endeavour to move beyond researching dyadic, focal or network interactions *as isolated, self-contained units-of-analysis*. The conceptual differentiation between these levels is an important *device* to make sense of otherwise exceedingly complex webs of relationships, and is invaluable in guiding data collection and creating conceptual representations of networks (Halinen & Törnroos, 2005). However, such conceptual convenience seems to generate research *ex-ante favouring one level of analysis*, such as dyads (Holmlund, 2004), over other, potentially more complex or less accessible levels of analyses, and prevents us from understanding the *interdependencies between these levels*. Yet, there are few network phenomena that can be understood by artificially isolating one level of analysis which, in fact, is embedded and interdependent with a dynamic structure of other levels.

In the context of this research, an *isolated examination* of how companies deal with risk at one level of analysis would have resulted in a one-dimensional view, which would deepen our understanding of the isolated use of contracting *or* standards at the expense of understanding how such activities are interconnected and dependent on each other for their effectiveness. In other words, this research would have missed understanding how activities at one level of analysis *influence and are influenced* by activities occurring at a different level. Considering the

major asset of network research is founded in the ontology of markets that more accurately approximates *real-life* business environments (Tikkanen, 1998), it is logical to invest in methodological decisions that transfer the ontological implications into empirical research design.

The importance of considering multiple levels of network analysis is not new and has been highlighted in existing conceptual network research (Halinen et al., 1999; Ford & Håkansson, 2006) and institutional research (Owen-Smith & Powell, 2008; Djelic & Quack, 2008). However, to date, in both fields, research remains largely conceptual and has been hardly empirically substantiated (Meyer, Brooks & Goes, 1990; Yang & Su, 2014). This thesis has made a first step towards demonstrating *empirically and conceptually* the benefits of a more nuanced, multi-level analysis of a network phenomenon. The integrated framework of how companies deal with risk (Figure 9.7) visualizes the adaptive process of how codification, monitoring and enforcement happens at *three, inter-dependent levels* of network analysis.

The second methodological contribution consists of demonstrating the value of bringing *business artefacts* from the periphery to a more prominent position in business network research.

Despite general appreciation for the advantages of combining different types of empirical evidence in qualitative research, the *actual use* of artefact analysis as *primary* empirical data in case study research has not yet done justice to fully reveal its potential. Specifically, the researcher observes four limitations in existent business networks and marketing research with regards to the use of artefacts:

- a) Business artefacts may not be considered equally relevant or rich sources of primary data compared to other types of evidence, such as interviews or notes from participant observation, in the first place.
- b) Business artefacts appear to be often subsumed into the category of 'secondary' data, with few clarifications as to *how* they contributed to informing the findings.
- c) Even studies considering the analysis of business artefacts appear to under-invest in the validity of consulted artefacts by drawing on *template* documents or publicly available versions of documents that may differ from *actual documents-in-use*.
- d) Research drawing on artefacts-in-use tends to either examine artefacts in *isolation from other empirical evidence* (such as interviews); and/or to examine the content and use of artefacts in *isolation from other, relevant artefacts*; and/or to study artefacts as 'static', which neglects consideration of potential changes to artefacts *over time*.

A paucity of published empirical and conceptual developments involving artefact-in-use analysis in network research appears to further 'silence' progress in understanding the contributions that can be derived from using artefacts as primary data. This materializes in

limited methodological advice available on *accessing* artefacts-in-use, the *analysis* and *reporting* of findings from different types of artefacts. In light of these observations, this thesis offers a first step towards uncovering the relevance of business artefacts for understanding network phenomena in the context of risk. Specifically, this research has highlighted:

- a) The challenges and limitations involved in gaining access to confidential artefacts-in-use;
- b) Why analysing artefacts-in-use is relevant to business marketing research;
- c) How the contextualised analysis of different artefacts, such as standards, GTC and contracts, may reveal important insights about the interdependency of interactions across network, focal and dyadic levels;
- d) The new insights that can be gained from triangulating artefact analysis with other sources of evidence, such as in-depth interviews and consultation of secondary data.

In this way, this thesis addresses the imbalance in existing business marketing and network research that focuses predominantly on the use of contracts.

10.4 Practical implications

This research raises three implications for practice relevant to marketing managers and educators. These include:

- 1) Illuminating to marketing managers the *relevance* of risk emerging beyond the 'horizon' of individual companies;
- 2) Suggesting an alternative approach to risk, which moves beyond the conventional, probability-based thinking about risk and risk-management systems;
- 3) Drawing attention to the power of institutional devices, such as standards, GTC and contracts, in *addressing uncertainty and impact of risk*, which a company – depending on its network position – may design, adapt or be subjected to.

The preceding chapters highlighted that companies interact in complex, idiosyncratic networks of relationships, where risk assumes a degree of uncertainty and where embeddedness and interdependency matter. The risks relevant to each actor in the business network, the available institutional devices and the freedom to adapt those devices depend on each actor's specific network position. In light of this, this research does not assume the hubris of *prescribing how companies should deal with risk*. Instead, the value of this research rests in guiding marketing managers' and educators' thinking about risk, which deviates from the hegemony of probability-based risk management literature.

By illuminating the relevance of dealing with risk for marketing managers, this thesis shifts focus from creating resources to *protecting* resources from risk impact. The thesis offers a first step towards raising marketing managers' awareness for risk by encouraging the adoption of a 'mega-scale view' of a company's embeddedness in direct and indirect relationships with

businesses, NGOs, governmental authorities, consumers, media and other actors. This view sensitizes practitioners towards risk that can:

- a) *Migrate* across webs of direct and indirect interactions, resulting in risk impact spreading to seemingly unrelated parts of the network, regardless of geographical, political or legislative borders;
- b) *Occur simultaneously* with other risks and prevent any one company from effectively dealing with risk unilaterally;
- c) *Impact key resources* of prime concern to marketing managers.

Building on this alternative approach to risk, the second practical implication raised in this research broadens the understanding of devices available for dealing with risk by moving beyond the consideration of software systems. Technical, software-based systems rely on complex probability-based algorithms that provide increasingly accurate data on future events. There are inherent limitations to software-based approaches, as in order to function, risks are treated as a series of snapshot events, isolated from one another. This pre-empts the developing of a more accurate, dynamic view of risk, which considers how impact may migrate across direct and indirect business interactions and how co-occurrence of several risks at a time may result in synergy effects, exasperating or possibly limiting the impact of any one risk. Moreover, probability-based risk systems typically reinforce the illusions that risk can be '*managed away*' by one company and that *thinking about risk can be externalized to a computer system*, which follows more sophisticated data processes than an individual (marketing) manager could accomplish.

Taking this alternative approach to risk seriously, the third implication consists of drawing marketing managers' attention to the uses of *institutional devices*, such as standards, GTC and contracts for dealing with risk. The power of institutional devices lies in their capability to address not just *one* specific risk, but in providing a '*modus operandi*' for a *range of future contingencies* that may or may not be known to all actors in advance. Moreover, institutional devices are *parsimonious* (compared to software-based forecasting systems) by comprising a maximum of five pages for GTC, possibly twenty pages for framework contracts and about 150 pages for standard schemes. Adapting institutional devices to a company's purposes based on its *interactions* and learning over time is more compatible with the cognitive capacities of (marketing) managers. Moreover, institutional devices respond to the real-life requirement of dealing with risk in *interaction* with multiple known and unknown actors across time and space. Consequently, institutional devices address the challenge of *orchestrating a concerted effort* when cross-company resources such as industry reputation, consumer confidence and freedom from regulations are at risk. Safeguarding these resources, which are of importance beyond any one company's boundaries, can be achieved through the use of standard and contractual devices spanning whole industries. Equally, developing standards and contracts

may help tailoring these devices to *protect a company's own resources*, such as product quality, intellectual property rights over brands, recipes or packaging, which may be impacted through product recall, compensatory payments or fines. The key mechanisms by which standards and contracts facilitate dealing with risk include: (a) *Limiting uncertainty* by way of addressing variability in direct and indirect interactions; and (b) *limiting impact*, by way of defining '*liability regimes*' for distributing risk impact among multiple actors.

To function efficiently, companies must strike a balance between designing institutional devices that are *flexible* enough to allow for the discretion of individual companies and relevance to future unknown contingencies; and stable enough to limit variability in present and future interactions across multiple actors. Moreover, this research highlights that institutional devices do not function in isolation from each other or in a 'self-enforcing' way. Instead, companies must invest in consistent and transparent *monitoring and enforcement* processes requiring continuous adaptations. The integrated framework for dealing with risk in business networks presented in Chapter Nine, Figure 9.7 may help practitioners locate and address weaknesses in existent uses of institutional devices. The following questions may further help practitioners to evaluate the use of institutional devices for dealing with risk: Are the 'rules' for dealing with risk clearly stated? Do the rules address risks that can originate from direct *and indirect* (business) actors? What monitoring practices are exercised? How are monitoring and enforcement of rules ensured in interaction with distant actors who are not directly accountable to the company? What are available enforcement practices and how do the exercised sanctions relate to those stated in respective legal regulations?

It is impossible to ignore that *power* in business relationships plays a major role in a company's capacity to develop, define and adapt institutional devices for dealing with risk (Rindt & Mouzas, 2015). Contract terms, GTC and standards are not an outcome of harmonious multi-party consultations, but a highly contested process, where each party tries to inscribe rules for dealing with risk that are of benefit to itself and which typically result in defining the obligations of other parties. Thus, many companies are not confronted with the choice of *how* to design contracts, GTC or standards, but instead face the choice of accepting or leaving another company's ready-made proposals. In that case, this research highlights the importance of reading and understanding the rules before deciding to accept the proposal. That is because both choices will *impact the framework of rules within which a company will have to deal with risk in future interactions*, and if that choice is made uninformed, it can increase a company's exposure to risk. Hence, it is each company's responsibility to understand not only the content and purpose of its *own* institutional devices but also the content and purpose of those it is subjected to, because these devices create and co-define the corset of rules available for dealing with risk.

To enhance the relevance of the above implications for marketing managers, it would be helpful to address the limited awareness towards risk in business marketing at an earlier stage, by updating marketing curricula on such modules as 'Strategic Marketing', 'International Marketing' or 'Business Marketing', along with relevant handbooks, to consider relevant approaches to dealing with risk in business relationships.

10.5 Limitations and directions for future research

This research presents one of the few ventures aimed at enhancing our understanding of risk and how companies deal with risk in business networks by analysing the use of institutional devices such as industry standards, GTC and framework contracts. However, in the face of the complexity and dynamics of risk in a network context, this thesis merely taps into a rich and recent field for business network and marketing research that promises to open various avenues for future research.

Surprisingly, research on risk within the streams of business network and institutional research, and even the broader discipline of business marketing, is in its infancy. This thesis offers an initial glance at the complex nature of risk in business networks and how companies codify, monitor, enforce and adapt institutional devices for dealing with risk at multiple levels of network interaction. Behind each of the concepts – risk, business networks, institutional devices, business artefacts – stands a rich body of literature, which had to be collapsed at times, like a hand-fan, to meet the scope of this project. Necessarily, the researcher is conscious of a range of limitations, the articulation of which may facilitate and guide future research. Specifically, the following paragraphs will identify the thesis' theoretical, methodological and empirical limitations and derive respective future research suggestions.

In theoretical terms, this thesis has highlighted the value of combining insights from network and institutional research: While the network approach to markets captures companies' real-life contexts of embeddedness and interdependency, institutional research contributes explanatory understanding of the devices that companies use for dealing with risk in networks. Combining two theoretical approaches presents a more nuanced conceptual basis for making sense of empirical data and ultimately may lead to developing and refining theory. However, this also involves necessary *choices* over what to include or exclude. Being aware of those choices allows playing a mind-game of how the research can unfold differently, based on an alternative set of theoretical underpinnings. Articulating these unexercised options may inspire future research to enrich our understanding of risk and how companies deal with risk.

For example, due to the choice of the unit-of-analysis, which does not specifically investigate *individual managers' perceptions of risk* and how perceptions are constructed and communicated, this thesis does not consider promising insights from research on network pictures (Henneberg, Naudé & Mouzas, 2010; Colville & Pye, 2010), which draws on

organisational sense-making research advanced by Weick (1995; 2005). Yet, as risk can be understood as a product of human perceptions of the future, it would be promising to invest in research at the individual level of network analysis. Moreover, research on network pictures can provide a valuable pathway for analysing the role business artefacts play in facilitating the development of *shared network pictures* within and across companies (Geiger & Finch, 2010).

Another theoretical limitation originates from the researcher's preference to adopt an *integrative* view of how companies deal with risk at *multiple levels of network analysis*, instead of researching in greater depth the use of institutional devices at one level of analysis. This has necessarily resulted in a brief treatment of a growing body of literature on the development and use of standards and transnational 'soft law' (Schanze, 2007; Djelic & Quack, 2008) in business interactions. While research on transnationalisation of (soft) law draws its strength from rich international empirical research, it tends to consistently proceed on a different trajectory from marketing research. However, considering our limited insights into the industry level of network analysis, research on transnationalisation of institutional systems can offer a relevant starting point to understand why certain actors invest in creating standards, how competing actors agree on sharing standards and how such initiatives are renegotiated over time.

Building on the above limitation, this research has barely considered contributions of institutional research with regards to understanding the *legitimization* of institutional devices developed by business actors and the process of institutional entrepreneurship (Deephouse & Suchman, 2008). While this thesis contributes to the cross-fertilization between network and institutional research (see, for example, Owen-Smith & Powell, 2008), it has not elaborated on how dominant network actors proceed to *invest institutional devices with legitimacy* and how such devices drive the institutionalisation of interactions over time. Drawing on the concept of institutional entrepreneurship could illuminate *which actors* motivate the creation of institutional devices and *how the interactive processes legitimising institutions and overcoming resistance to new institutional devices unfolds*. Moreover, this research could illuminate *how* different sets of network actors advance institutional set-ups in competition with other sets of network actors.

This present research has merely touched upon the resource of historical marketing research, such as literature on the banana trade in the early 20th Century (Buchelo, 2004) or the phenomenon of "Law Merchant" (Kadens, 2012). While this stream of research appears to be consistently neglected in informing our analyses of contemporary business interactions, it offers invaluable conceptual and empirical insights into the use of business artefacts as primary data informing empirical and conceptual research in business marketing.

The thesis' methodological limitations originate from challenges associated with data access and meeting confidentiality requirements. The current state of research on risk in business networks would significantly benefit from future investigations where access to *both* sets of actors involved in direct and indirect interactions is granted.

This research did not perform a comparative analysis of business artefacts-in-use over time. Since this research draws on recent and still valid standards, GTC and contracts, the analysis of changes is limited to those noted within the actual documents. However, it would be of benefit to perform a comparative study of different versions of artefacts-in-use over a longer period of time. For example, how did the content of framework contracts and GTC change between 1990 and 2015 (a period of significant changes to the German and European food laws)? While it may seem that accessing historical artefacts-in-use is easier than accessing current versions, the competitive nature of the food industry and investigations into the sector over the last decades by the German and European governments, on the grounds of collusion and unfair trading practices, challenged the researcher's access. Yet, comparative analysis could yield important insights into how and why artefacts change and how changes influence the performance of business interactions.

Another methodological limitation is grounded in the critical realist stance to analysing artefacts-in-use. While this approach is aligned with the research design, objectives and the researcher's beliefs, it is intriguing to perform additional data collection and analysis, assuming an interpretivist approach. Adopting the social constructionist approach to analysing artefact content could generate relevant insights into how actors inscribe meaning and preferences into business artefacts and how such inscriptions can institutionalise power-asymmetry in direct and indirect interactions.

In terms of empirical limitations, the thesis relies on investigating one, albeit significant empirical setting in terms of industry and geography. Future research into how companies deal with risk in different empirical settings, with potentially different power structures and regulatory contexts, would significantly help in further developing the thesis' theoretical contribution. The German business culture is significantly characterised by adherence to rules and taking business artefacts seriously. This may significantly influence the effectiveness and efficiency of using institutional devices. Moreover, Germany's 'civil law' system strongly influences the content, framing and use of institutional devices for dealing with risk. A fruitful path for future research would involve a comparative investigation into the use of institutional devices in diametrically opposed empirical settings in order to highlight similarities and differences in patterns of interactions.

To further enhance our understanding of the use of artefacts in business interactions, future research could investigate the degree of discrepancy and alignment between the agreements

codified in artefacts-in-use and the actual performance. This research has not investigated the degree of alignment between codified rules and performed (inter-) actions in nearly sufficient detail. Yet, research in the area of organisational studies has illuminated the importance of understanding 'governance gaps' between actors' intended and realized performance (Becker & Zirpoli, 2008). While this research predominantly focuses on intra-organisational governance gaps, such insight would be invaluable in the context of dealing with risk in inter-organisational settings. Researching 'governance gaps' in empirical terms ideally requires action research or participant observation of a sufficiently longitudinal nature. Nevertheless, such research is vital, particularly in the context of risk in the food industry, as discrepancy between codification and actual performance can have detrimental impact on human health and safety. Understanding how 'gaps' between codified rules and actual performance emerge, sustain or close may significantly enhance our understanding of the uses of institutional devices for dealing with risk beyond the setting of food retailer-manufacturer networks.

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APPENDIX: INTERVIEW PARTICIPANTS

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
1	Global Soft Drink Manufacturer	<ul style="list-style-type: none"> - District Manager/Head of regional KAM wholesale - Previously: Head of Customer Strategy at the (same) Global Soft Drink Manufacturer - Head of Channel Marketing "Home Market" at the Global Soft Drink Manufacturer - Senior Manager Market Strategy & Planning at Procter & Gamble Prestige 	(Phone) May 15, 2012, 4pm-5pm
2	Food Laboratory (470 clients from the food industry (primarily meat and dairy; 3500 clients from water and beverages industry)	Founder and Managing Director	Berlin, Meeting at QUARISMA Conference, Berlin, June 11, 2013 (lunch break: 1-2pm)
3	German Risk Consulting Agency (RCA)	Consultant at RCA; area of expertise: Supply Chain Management, Supplier Screening; HACCP and Food Defence Accreditation, works with Grunewald, Alnatura, EDEKA	Bonn, Almost daily conversations throughout period of participant observation from June 14, 2013 to August 1, 2013.
4	Retailer Delta	Director of Compliance	Hamburg, February 4, 2014, Telephone conversation
5	German Federation of Edible Oil Processors and Manufacturers	Head of Division for processing, manufacturing and trade of edible oils (area of expertise: palm oil)	Berlin, August 22, 2013, 10am-12.
6	German Meat Co-operative	Head of Division for livestock and meat production (co-operation with Vion and Tönnies; two of Europe's largest meat producers)	Berlin, Meeting at QUARISMA Conference, Berlin, June 12, 2013

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
7	Farmer, self-employed	Organic farmer and fruit and vegetable supplier to local food retailers	Farm close to Wageningen, The Netherlands, August 29, 2013, 10am-6pm
8	Major German Insurance Company	Director of Marketing (Insurance); previously: POS Marketing Manager for a major cosmetics manufacturer	Cologne, July 3, 2012, 12-2pm
9	German Federal Institute for Risk Assessment (BfR)	Head of Division for risk communication, prevention and impact evaluation (in B2B and B2C)	Berlin, June 13, 2013, 1pm - 2pm
10	Federation of German Food and Drink Industries (BVE)	Managing Director; area of specialization: risk and crisis management projects in the German food and drink industries	Berlin, July 12, 2012, 11am-1pm
11	Lancaster Centre for Forecasting	Professor and Joint Director of Centre for Forecasting	Lancaster (UK) April 18, 2.15 pm -3.15pm
12	German Federation for Food Law and Food Science (BLL)	Managing Director and Lawyer; expert on German and European Food Law and Contracting Practices	Berlin, June 7 th , 2pm-4pm
13	Legal Consulting Firm	Leading lawyer in the German food and beverages industry (manufacturing & retail); Founder of the Food Lawyers Network Worldwide Association; member of the IFS Sanctioning Committee	Gummersbach, September 6, 2012, 11am-1pm
14	Food Quality and Hygiene Management (self-employed) for several food suppliers, previously: PHW Group (biggest German poultry producer)	Food Quality Manager	Landesbergen, June 13, 2013, 11am- 2pm
15	Legal Consulting Firm	Legal advisor in commercial and corporate law	Cologne, July 11, 2012, 12-1.30pm
16	'Xion' meat processing and manufacturing	Food Safety Manager	Berlin, June 12, 2013, 6pm-7pm

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
17	Legal Consulting Firm	Legal advisor in corporate and commercial law	Hamburg, June 14, 2011, 1pm -2pm
18	German Federation of Edible Oil Processors and Manufacturers	Head of Division for communications and coordination; Sustainability expert	Berlin, August 22, 2013, 10am-12.
19	German Risk Consulting Agency (RCA)	Management Consultant with areas of expertise in Compliance and Risk Management retailer supply networks (worked on Retailer Delta's compliance initiative)	Bonn, July 25 th , 2013, 12-2pm
20	FMCG manufacturer	Global Head of Brand-management & Communication; formerly employed at relevant food and FMCG manufacturers: Kattus Gourmet Foods; RJ Reynolds Tobacco; Reemtsma Tobacco; Mars Foods	Duisburg, July 10, 2012, 11am-1pm
21	Manufacturer of own- and retailer-brand products	Product Manager (with expertise in supplier management (actively involved in screening suppliers; setting up, changing and ending supplier relationships; as well as key account management for retail partners); distribution to all major German retailers [referred to as Manufacturer M2])	June 11, 2011, 1pm-4pm
22	Major European meat producing company	Managing Director and Head of EU Sales and Marketing	Berlin, Meeting at Quarisma Conference, June 12, lunchtime 1pm-2pm
23	German Risk Consulting Agency (RCA)	Managing Director at RCA	Bonn, multiple conversations throughout the period of participant observation (and sharing an office): June 14, 2013 and August 1, 2013.
24	Leading German consumer protection group	Project Manager; expertise in 'investigative industry reports' and media campaigning, area of expertise baby/child food products	Berlin, July 13, 2012, 3pm - 3.30pm

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
25	German Industry Alliance for Food Safety	Expert on feed production and trade; has been involved in regulatory projects following the dioxin contamination incident	Berlin, Meeting at QUARISMA Conference, June 13, Dinner 6pm -8pm, 2013
26	German Risk Consulting Agency (RCA)	Consultant at RCA with areas of expertise in cross-organizational sustainability management (in the food supply network); works with Deutsches Frühstücksei, Arla Foods, Müller Group and retailers DM, REWE.	Bonn, multiple conversations throughout the period of participant observation (and sharing an office): June 14, 2013 and August 1, 2013.
27	Globally operating accreditation and certification body	Food Service Manager and Auditor, expert on risk and root-cause analysis; Auditor for IFS and other standards; expert on supply chain risks and food safety & packaging regulations	Herne June 30, 2012, 6pm-8pm
28	German Food and Health Academy	Independent interim manager	Braunschweig, May 16, 2011, 2pm-4pm
29	German Sugar and Confectionery Industry Association	Senior position in the division for Food Safety and Health; expertise on private standards; prior experience with major German confectionery manufacturer; co-ordinated the acrylamide incident in Germany	Bonn, July 3, 2012, 11am-12.30.
30	International Centre for Food Chain and Network Research	Director of the International Centre for Food Chain and Network Research; involved in multiple cross-border projects (with Dutch, French, German and Scandinavian food companies); recent focus on integrated risk and quality management along the global food supply chain	Two Conversations: - Phone conversation, May 30, 2013, 4-4.30pm) - Meeting prior to QUARISMA Conference on June 11, 2013, 9-10.30am
31	International environmental NGO	Project Leader for Sustainable Palm-Oil in Europe; Coordinator of Retailer-Manufacturer-NGO and Consumer Interactions	Berlin, June 13, 10am-12
32	Major strategic consulting firm	Director, Consulting Financial Services	Communication through expert forum chat

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
			September 3, 2012, 5pm-6pm
33	Institute for Comparative Law	Lawyer and expert on contract law and practices, international commercial transactions in B2B relationships	Marburg/Lahn, June 30, 2011, 2pm-5pm
34	Owner of milk/dairy and poultry farm in Germany (Bavaria)	As farm owner he has been involved in multiple certification and auditing processes; manages his own sourcing and distribution at a small scale conventional farming business	Würzburg, May 1, 2013, 10am-12.
35	Independent IFS audit consultant	Independent IFS Audit Consultant; operates the German "Lebensmittelforum".	Communication through Expert Forum chat, March 5 th 2014.
36	Independent consultant	Member of the Curatorium and special representative of The Hague Academy of International Law	Munich, April 20, 2013, 6pm-8pm
37	Major strategic consulting firm	Director Consulting Services; area of expertise in risk management	Communication through Expert Forum chat May 3, 2012, 5pm-6pm
38	German Risk Consulting Agency (RCA)	Senior consultant with areas of expertise in stakeholder management (coined 'perceived risk' management), working with multiple clients from the German dairy industry, food supplements and beverages businesses (incl. beer, wine, juices, 'novel' food).	Bonn, multiple conversations throughout the period of participant observation (and sharing an office): June 14, 2013 and August 1, 2013.
39	Major strategic consulting firm	Senior consultant, area of expertise: risk and contract management	Communication through expert forum chat May 3, 2012, 5pm-6pm
40	International environmental NGO	Head of Division of Sustainable Biomass (dealing with sustainable sourcing of raw materials, including oils); apart from that: Deputy Managing Director and Auditor for Organic Farming at a German consulting firm; expertise in certification business for organic farming and sustainable biofuels	Berlin, June 13, 10am-12

ID	Organisation (anonymised)	Current and relevant previous positions	Interview date
41	Federal Ministry of Food, Agriculture and Consumer Protection (BMELV).	Senior Legal Secretary; Head of Safety in the Food Supply Chain	Berlin, Meeting on June 11, 2013 during QUARISMA Conference.
42	Marketing and Product Innovation Agency	Managing Director (expertise in product development and marketing with key retailers)	Cologne, April 26, 2012, 4pm-6.30pm

