

# **Exploring Strategic Supply**

## **Risk**

### **Sources, Indicators, Tools and Theory**

Type of Paper:	Master's Thesis
Author:	D. Mauricio Reichenbachs
Date:	Winter 2011

First Name: D. Mauricio

Last Name: Reichenbachs

Matriculation No.: s1029401

Email: d.m.reichenbachs@student.utwente.nl

Major: Master in Business Administration

Thesis Supervisor: Prof. Holger Schiele

2<sup>nd</sup> Supervisor: Petra Hoffmann

Submission Date: 04/02/2011

## **Student Declaration**

I hereby declare that:

1. This thesis is my own work. I have acknowledged material from the work of other people and I have clearly marked and given references to all quotations.
2. The content of this thesis is not confidential.



A. Anitha Devi

-----  
Signature

## Table of Contents

1	Strategic supply risk as increasingly important, yet under-researched phenomenon .....	1
2	On supply risk classifications, strategic supply risk and supply risk management systems .....	4
2.1	Defining risk in the buyer-supplier context: Risk as the product of probability and negative impact .....	4
2.2	Source and outcome based supply risk classification schemes – A literature review .....	7
2.3	Strategic supply risk: The risk of not being a preferred customer .....	9
2.4	Supply risk management systems: Sources, indicators and mitigation/reduction strategies .....	12
3	Embedding strategic supply risk into existing theories .....	14
3.1	Resource dependence theory: Lowering strategic supply risk through increasing supplier dependence? .....	14
3.2	Relational view: Competitive advantage and low strategic supply risk through relational competence? .....	17
3.3	Social capital theory: The three dimensions of social capital as strategic supply risk sources and tools? .....	20
3.4	Principal-agent theory: Strategic supply risk as a consequence of incomplete, ill-formulated contracts? .....	26
4	Empirical data collection and analysis .....	28
4.1	The World Café: Concept, structure and realization of the supply risk workshop .....	28
4.2	Qualitative data analysis: Having codes evolve inductively from collected data versus deriving codes deductively from theory .....	31

4.3	Developing a research framework and coding scheme in order to explore the applicability of the identified theories .....	33
5	Deductive and inductive coding results .....	39
5.1	Deductive coding .....	39
5.1.1	Resource dependence theory: Strategic supply risk due to low monetary dependence of supplier .....	39
5.1.2	Communication and interaction as keys for dealing with strategic supply risk according to the relational view .....	42
5.1.3	Counteracting strategic supply risk with structural social capital.....	44
5.1.4	The importance of contract design for managing strategic supply risk following principal-agent theory .....	49
5.1.5	Comparing the results: Social capital theory captures strategic supply risk best .....	51
5.2	Inductive coding .....	53
5.2.1	The supplier as the main source of strategic supply risk .....	53
5.2.2	Supplier's responsiveness and turnover indices as most important indicators of strategic supply risk .....	59
5.2.3	Cooperation, watertight contracts and strategy alignment: Dealing successfully with strategic supply risk.....	64
6	Conclusion .....	70
6.1	Theoretical implications: Preferred customer status as a type of social capital .....	70
6.2	Managerial implications: Designing strategic supply risk management systems .....	71
7	Literature contribution, limitations and further research .....	74

## List of Figures

Figure 1 – Overall company risk.....	5
Figure 2 – Categories and drivers of supply risk according to Chopra and Sodhi.....	8
Figure 3 – Supply risk management system .....	13
Figure 4 – The resource-based approach versus environmental models.....	18
Figure 5 – Resource classification scheme .....	19
Figure 6 - Embedding strategic supply risk in social capital theory.....	26
Figure 7 – The World Café .....	30
Figure 8 – Deduced codes for the resource dependence theory.....	33
Figure 9 – Deduced codes for the relational view.....	35
Figure 10 – Deduced codes for the social capital theory .....	36
Figure 11 – Deduced codes for the principal-agent theory .....	38
Figure 12 – Deductive coding results for the resource dependence theory .....	40
Figure 13 – Deductive coding results for the relational view .....	42
Figure 14 – Deductive coding results for the social capital theory.....	45
Figure 15 – Deductive coding results for the principal-agent theory.....	49
Figure 16 – Overall deductive coding results .....	51
Figure 17 – Inductive coding results: Strategic supply risk sources.....	54
Figure 18 – Inductive coding results: Indicators of strategic supply risk .....	59
Figure 19 – Inductive coding results: Tools against strategic supply risk.....	64
Figure 20 – Draft of a strategic supply risk management system .....	73

## **1 Strategic supply risk as increasingly important, yet under-researched phenomenon**

The time when companies used to produce more than 80% in-house is long ago. With mounting pressure to specialize in order to be competitive, outsourcing the production of goods and the provision of services not considered as core competencies has become the major business trend of the last decades.<sup>1</sup> This shift from in-house production to outsourcing had and still has far-reaching consequences, not all of them positive.<sup>2</sup> The logic of outsourcing a firm's non-core activities is that it is supposed to increase the company's ability to focus on its core competences - those business aspects with which the firm arguably achieves competitive advantage.<sup>3</sup> However, this restricted view on how to achieve competitive advantage might have to be updated.

Scholars have shown that companies do not only derive competitive advantage solely from their innate capabilities anymore, but increasingly from their ability to establish and maintain relationships with external entities such as suppliers.<sup>4</sup> Already in 1983, Kraljic postulated that purchasing has to become supply management.<sup>5</sup> And indeed, many scholars observed later on a transformation from plain 'buying' to professionalized supply management.<sup>6</sup> Thanks to the recent advancements in ICTs and transportation, supplying entities are increasingly located abroad.<sup>7</sup> On the one hand, this enables companies to "utilize purchasing potential on a worldwide level"<sup>8</sup> and benefit from "cross-border factor-cost advantages" such as "low-wage country sourcing"<sup>9</sup>. However, there might be limits to global sourcing.<sup>10</sup>

---

<sup>1</sup> See e.g. M. F. Corbett (1994), p. 19f; Pepper (1996), p. 8; Conte (1998), p. 16ff; Pullan (1998), p. 269; Cunningham (2001), p. 13ff; Galloro (2001), p. 57f; Glaser (2001), p. 16; Anderson (2004), p. 104f; Kakabadse/Kakabadse (2005), p. 183ff; York (2008), p. 99f.

<sup>2</sup> See e.g. Benoit A. (1998), p. 3f; Elmuti/Kathawala (2000), p. 120ff; Gilley/Rasheed (2000), p. 763ff; De Groot (2001), p. 53ff; Glaser (2001), p. 23f; Glass/Saggi (2001), p. 85ff; Pfannenstern/Tsai (2004), p. 72; Mol et al. (2005), p. 599ff; Jiang et al. (2006), p. 1280ff; Rothaermel et al. (2006), p. 1033ff; Gorg et al. (2008), p. 670f.

<sup>3</sup> See Cunningham (2001), p. 13; Kakabadse/Kakabadse (2005), p. 183.

<sup>4</sup> See Lewis (1995), p. xiii; Dyer/Singh (1998), p. 660ff; Carr/Pearson (1999), p. 497ff; Gold (2010), p. 230.

<sup>5</sup> See Kraljic (1983), p. 108.

<sup>6</sup> See Davis (1993), p. 35; Ellram/Carr (1994), p. 10; Gadde/Snehota (2000), p. 305.

<sup>7</sup> See Antras et al. (2006), p. 31; Blinder (2006), p. 115.

<sup>8</sup> Arnold (1989), p. 26.

<sup>9</sup> Steinle/Schiele (2008), p. 3.

In particular, offshoring, which refers to outsourcing to suppliers located abroad, entails an increase in risks vested in buyer-supplier relationships such as miscommunication and transport risks.<sup>11</sup> Consequently, managers nowadays have to deal with supply risks from a more different range of sources and contexts.<sup>12</sup> This paper argues that the risk for the buyer of not being a preferred customer of its supplier(s) is one of these risks and that being a preferred customer can constitute a competitive advantage.

Case study evidence suggests that the more distance there is between the supplier and the buyer the less likely the buyer is to be a preferred customer of the supplier.<sup>13</sup> In addition, research shows that preferred customers profit for instance from benevolent supplier pricing<sup>14</sup>, higher supplier responsiveness when ordering varieties temporarily in shortage<sup>15</sup>, and generally perform better than non-preferred customers<sup>16</sup>. Therefore, being a preferred customer can be a source of a firm's competitive advantage. Consequently, buyers should strive to become "their core supplier's customer of choice, that is, their preferred customer"<sup>17</sup>, just as suppliers strive for preferred supplier status with their most important customers.

Unfortunately, literature on this issue is still very thin. Ample research and studies have been conducted on how suppliers can attract and retain their customers.<sup>18</sup> Contrariwise, looking at the issue of preferential resource allocation in buyer-supplier relationships from the purchasing perspective has received little attention, albeit the recently emerging literature on customer attractiveness.<sup>19</sup> Nevertheless, as a review of extant supply risk classification schemes will show, the risk of not being a preferred customer has not been treated as distinct supply risk yet.

---

<sup>10</sup> See Steinle/Schiele (2008), p. 3ff.

<sup>11</sup> See Benoit A. (1998), p. 3.

<sup>12</sup> See Clemons (2000), pp. 2-4.

<sup>13</sup> See Steinle/Schiele (2008), p. 12.

<sup>14</sup> See Schiele et al. (2010), p. 2.

<sup>15</sup> See Williamson (1991), p. 81.

<sup>16</sup> See Steinle/Schiele (2008), p. 11.

<sup>17</sup> Steinle/Schiele (2008), p. 11.

<sup>18</sup> See e.g. Evans/Laskin (1994), p. 439ff; Robert M. Morgan/Hunt (1994), p. 181ff; Hanssen-Bauer/Snow (1996), p. 416; R. M. Morgan/Hunt (1999), p. 270ff; Wong/Chan (1999), p. 107ff; Palmatier et al. (2006), p. 136ff.

<sup>19</sup> See e.g. Christiansen (2002), p. 177ff; Ellegaard (2003), p. 346ff; Mortensen et al. (2008), p. 799ff; Ramsay/Wagner (2009), p. 127ff.



The first step of treating the chance of not being a preferred customer as distinct supply risk requires giving it a particular name. Since a company's strategy can be considered a plan for achieving competitive advantage<sup>20</sup>, for example via preferred customer status, the risk of not being a preferred customer is a strategic risk. Thus, the risk of not being a preferred customer is labeled 'strategic supply risk'. As a specific type of supply risk, strategic supply risk has to be embedded in supply risk management systems. Typically, these systems identify the risk sources, develop risk indicators and subsequently create tools for managing the risk.<sup>21</sup> Therefore, the first research question this study tries to answer reads:

- I. *What are the sources of strategic supply risk, which indicators are there and how can companies manage strategic supply risk?*

Following a qualitative approach, inductive coding will be applied for answering research question number one. Moreover, next to providing managers with first guidelines for setting up strategic supply risk management systems, the second goal of this research is to lay the foundation for developing a strategic supply risk theory. For doing so, well-known theories which generally apply to the context of buyer-supplier relationships are selected and discussed. Based on deductive coding, it will then be explored which theory applies best to strategic supply risk. Thus, research question number two reads:

- II. *Which extant theory applicable to buyer-supplier relationships captures the phenomenon of strategic supply risk best and should thus serve as basis for developing a strategic supply risk theory?*

To begin with, the concepts of risk and supply risk are discussed. Based on an extensive literature review, supply risk will be defined as follows:

*Supply risk is the chance of undesired events associated with the inbound supply of goods and/or services which have detrimental effects on the purchasing firm and prevent it from meeting customers' demand within anticipated costs and time.*

---

<sup>20</sup> See e.g. Barney (1991), p. 99; Dyer/Singh (1998), p. 660; Porter (2002), p. 25.

<sup>21</sup> See e.g. Harland et al. (2003), p. 56; Kleindorfer/Saad (2005), pp. 2-3; Blackhurst (2008), p. 145; Pavlou/Manthou (2008), p. 604; Schoenherr et al. (2008), p. 101; Knemeyer (2009), p. 142; Mullai (2009), p. 86; Neiger et al. (2009), p. 154.

Preceded by a literature review on existing supply risk classifications and followed by a short description of supply risk management systems, the nature of strategic supply risk will be elaborated on in detail. Strategic supply risk will be defined as follows:

*Strategic supply risk is the risk for purchasing entities of not being a preferred customer of their supplier(s).*

Further, for the purpose of this research, a preferred customer is defined as a customer benefitting from “preferential resource allocation”<sup>22</sup> through a supplier. Subsequent to embedding the concept of strategic supply risk into existing theories, the data collection and the applied qualitative methods are explained. The following deductive analysis illustrates which of the existing theories applies best to strategic supply risk, whereas the inductive approach will reveal strategic supply risk sources, indicators and tools. The paper concludes with discussing the managerial and theoretical implications of the study results. Last but not least, the study’s limitations as well as suggestions for further research are outlined.

## **2 On supply risk classifications, strategic supply risk and supply risk management systems**

### ***2.1 Defining risk in the buyer-supplier context: Risk as the product of probability and negative impact***

What is risk? In their 1992 report the Royal Society tried answering this question by describing risk as “the probability that a particular adverse event occurs during a stated period of time, or results from a particular challenge”<sup>23</sup>. Also, they maintain that “as a probability in the sense of statistical theory, risk obeys all the formal laws of combining probabilities”<sup>24</sup>. Having a closer look at the first part of the definition, two major components can be identified: probability and loss (adverse event). Thus, the more likely an adverse event is to occur, and the greater the significance of the loss resulting from it, the greater is the risk. The second part of the definition entails

---

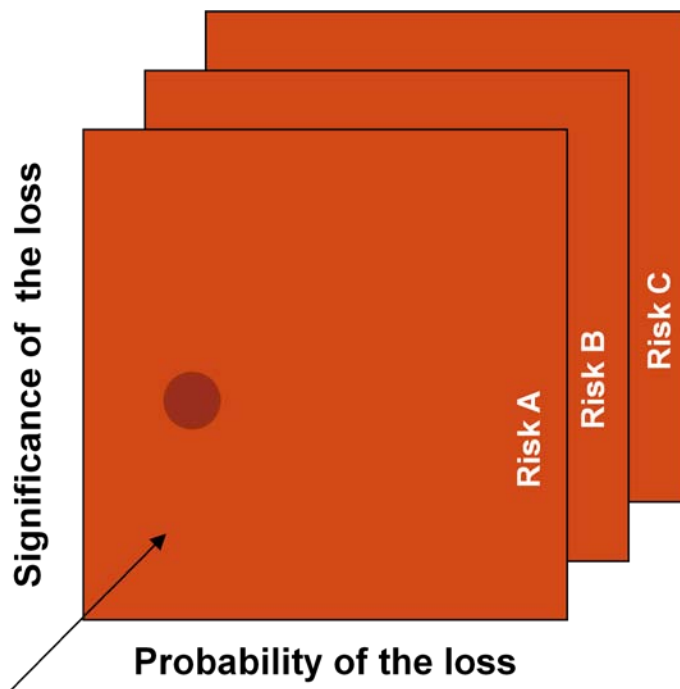
<sup>22</sup> Steinle/Schiele (2008), p. 11.

<sup>23</sup> Royal Society (1992), p. 54.

<sup>24</sup> Royal Society (1992), p. 54.

that when exposed to two (three, four...) different kinds of losses with the same probabilities the overall risk doubles (trebles, quadruples...). Likewise, Harland and her colleagues define risk as “a chance of danger, damage, loss, injury or any other undesired consequences”<sup>25</sup>. For calculating the risk, Mitchell stated that the size of a given risk  $n$  equals the probability of the loss  $n$  multiplied by the significance of the loss  $n$ .<sup>26</sup> The overall company risk can be obtained by adding up the sizes of the single risks.<sup>27</sup> It is important to bear in mind, however, that such calculations assume that the probabilities are by and large known, meaning there is little uncertainty.<sup>28</sup>

Figure 1 – Overall company risk<sup>29</sup>



Having discussed what risk refers to in general, the concept of supply risk needs to be clarified. A popular definition stems from Meulbrook who stated that supply risk “adversely affects the inward flow of any type of resource to enable operations to take place”<sup>30</sup>. However, this definition fails to include services which are provided by suppliers. Also, in case the buying company is able to find a new supplier fast

<sup>25</sup> Harland et al. (2003), p. 52.

<sup>26</sup> See Mitchell (1995), p. 116.

<sup>27</sup> See Mitchell (1995), p. 117.

<sup>28</sup> See Sitkin/Pablo (1992), p. 10.

<sup>29</sup> Reichenbachs et al. (2010), p. 4.

<sup>30</sup> Meulbrook (2000), p. 308.

enough, production is not necessarily interrupted. Meulbrook's definition was further developed by Zsidisin who tried to come up with a grounded definition of supply risk and concluded that supply risk is "the probability of an incident associated with inbound supply from individual supplier failures or the supply market occurring, in which its outcomes result in the inability of the purchasing firm to meet customer demand or cause threats to customer life and safety"<sup>31</sup>. Yet, given that the newly qualified supplier can produce at the same quality and quantity as the old one, supply risk does not inevitably entail the interruption of production, the inability to meet customer demand or a threat to customer health and safety.

In a different paper Zsidisin maintains that "supply risk involves the potential occurrence of events associated with inbound supply that can have significant detrimental effects on purchasing firms"<sup>32</sup>. Manuj refines Zsidisin's definitions by adding that supply risk entails the failure of the purchasing company to meet customer demands "within anticipated costs and time"<sup>33</sup>. This is a constructive refinement as the described sample case would be included. Another definition is suggested by Zsidisin et al. who maintain that supply risk is "the transpiration of significant and/or disappointing failures with inbound goods and services"<sup>34</sup>. Since all of the described definitions contain useful elements, a combination of these definitions serves as basis for developing the supply risk definition which will be drawn upon in this study. It is proposed to define supply risk as follows:

*Supply risk is the chance of undesired events associated with the inbound supply of goods and/or services which have detrimental effects on the purchasing firm and prevent it from meeting customers' demand within anticipated costs and time.*

This definition is a very general and yet precise one. It is precise for it contains all the elements associated with supply risk - namely probability, loss, and inbound supply of goods *and* services. Yet, it is general enough since the term 'detrimental effects' covers a wide range of phenomena. Literature descriptions of supply-related adverse effects range from financial loss through health and safety concerns through

---

<sup>31</sup> Zsidisin (2003a), p. 222.

<sup>32</sup> Zsidisin (2003b), p. 13.

<sup>33</sup> Manuj (2008b), p. 197f.

<sup>34</sup> Zsidisin et al. (2000), p. 187.

reputation damage to supply chain interruption.<sup>35</sup> Moreover, this definition clearly states that suffering from supply risk does not inevitably entail not being able to meet the customer's demand. In contrast, purchasing firms can be able to meet their customers' demands in the end, however, surely not within anticipated costs and time.

The next step of the analysis illustrates that different scholars have taken different approaches to classifying supply risk types. However, they all have in common that supply risks associated with not being a preferred customer are not included.

## ***2.2 Source and outcome based supply risk classification schemes – A literature review***

In fact, literature contains many, very different categorization schemes. Johnson for instance differentiates between risks related to product demand, which may vary across seasons, booms and recessions, and risks related to product supply referring to capacity limitations and supply chain disruption.<sup>36</sup> In similar fashion, Hallikas et al. come up with a threefold supply risk classification: demand risk, hold-up risk and replaceability risk.<sup>37</sup> Again, demand risk is associated with fluctuating demand and the supplier's ability to adjust its production to it. The term hold-up risk refers to what other scholars have described as lock-in problem<sup>38</sup> that is to say the buyer is locked in a relationship with a certain supplier due to the investment into relationship specific assets. Last but not least, replaceability risk is related to the buying firm's chance (or inability) of replacing the particular supplier.

With their outcome focus, Chopra and Sodhi take a different approach. They differentiate supply risk according to the type loss, i.e. the detrimental impact on the purchasing organization. Furthermore, they identify risk drivers, i.e. the sources for

---

<sup>35</sup> See Goldberg et al. (1999), p. 19; Harland et al. (2003), p. 52; Chopra/Sodhi (2004), p. 54.

<sup>36</sup> See M. E. Johnson (2001), p. 110.

<sup>37</sup> See Hallikas et al. (2005), p. 76.

<sup>38</sup> See Stump/Heide (1996), p. 432; Benoit A. (1998), p. 3; Lonsdale (2001), p. 22; Wathne (2004), p. 76.

each of the nine supply risk categories they identify.<sup>39</sup> The table below summarizes the findings of Chopra and Sodhi.

Figure 2 – Categories and drivers of supply risk according to Chopra and Sodhi<sup>40</sup>

<i>Category of risk</i>	<i>Drivers of risk</i>
Disruptions	e.g. natural disasters
Delays	e.g. inflexibility of supply source
Systems	e.g. e-commerce
Forecast	e.g. ‘bullwhip effect’
Intellectual property	e.g. global outsourcing
Procurement	e.g. exchange rate risk
Receivables	e.g. number of customers
Inventory	e.g. product value
Capacity	e.g. capacity flexibility

By contrast, Zsidisin conducts exploratory research and identifies two broad categories of supply risk based on origin.<sup>41</sup> It is argued that supply risk accrues from either the market or the supplier itself. Supply market-related risks include for instance market capacity constraints, whereas for example the supplier’s inability to meet quality requirements is seen as individual supplier failure-related supply risk. Quite similarly, Jüttner argues that supply risk can be classified into organizational, environmental and network risk.<sup>42</sup> Yet another approach is taken by Manuj who tries to categorize global supply chain risks.<sup>43</sup> Overall, eight risk types and sources are identified: supply disruption, breakdown of operations, demand fluctuations, infrastructure security, macro-economic changes, national policy restrictions, lack of knowledge about competitors, and changes in resource requirements.

The literature review has revealed that there are various supply risk classifications which take quite different approaches. Some focus on the outcome that is to say the type of loss<sup>44</sup>, some on the risk drivers/sources<sup>45</sup> and yet others use mixed

<sup>39</sup> See Chopra/Sodhi (2004), pp. 54-57.

<sup>40</sup> Adapted from Chopra/Sodhi (2004), p. 54.

<sup>41</sup> See Zsidisin (2003a), p. 217.

<sup>42</sup> See Jüttner (2003), p. 122.

<sup>43</sup> See Manuj (2008a), p. 133.

<sup>44</sup> See Chopra/Sodhi (2004), p. 54.

<sup>45</sup> See M. E. Johnson (2001), p. 110; Zsidisin (2003a), p. 217; Manuj (2008a), p. 138.

classification schemes<sup>46</sup>. However, they share one common feature: they all fail to include the supply risk of not being a preferred customer. However, as outlined in the beginning, becoming a preferred customer is more than ever important for buyers in order to stay competitive. In the following, strategic supply risk is described in detail.

### ***2.3 Strategic supply risk: The risk of not being a preferred customer***

Since the purpose of this study is to find out about the precise nature of strategic supply risk, the following descriptions are to be understood as ‘educated guesses’. To begin with, an important clarification needs to be made. The meaning of the term ‘strategic’ in the context of strategic supply risk is different from what it commonly refers to in the context of partnerships and cooperation between companies.<sup>47</sup> Strategic supply risk does for instance not refer to supply risks associated with strategic, long-term suppliers.<sup>48</sup> Quite the reverse, strategic supply risk denotes the risk for a buyer of not being a preferred customer of its supplier(s), irrespective of it being a strategic or non-strategic supplier. This raises the issue of what the term ‘preferred customer’ refers to.

Although Hottenstein noted already in 1970 that “most businesses have preferred customer's lists, which may be based on past orders or expectations of future business”<sup>49</sup>, only few literature on the preferred customer issue from the purchasing perspective exists up to date. Steinle and Schiele for example state that “a firm has preferred customer status with a supplier, if the supplier offers the buyer preferential resource allocation”<sup>50</sup>. Similarly, Williamson describes preferred customers as customers important to the supplier and claims concomitantly that importance shows when buyers demand products temporarily in shortage.<sup>51</sup> He argues that a supplier generally “responds first to the needs of his preferred customers”<sup>52</sup> with less

---

<sup>46</sup> See Hallikas et al. (2005), p. 76.

<sup>47</sup> See e.g. Kraljic (1977), p. 72; Spekman (1988), p. 77; Bensaou (1999), p. 35; Christopher/Jüttner (2000), p. 119.

<sup>48</sup> See e.g. Kraljic (1983), p. 111; Kaufman et al. (2000), p. 654; Gelderman/Van Weele (2003), p. 212.

<sup>49</sup> Hottenstein (1970), p. 46.

<sup>50</sup> Steinle/Schiele (2008), p. 11.

<sup>51</sup> See Williamson (1991), p. 81f.

<sup>52</sup> Williamson (1991), p. 83.

preferred customers being “forced to wait in a queue”<sup>53</sup>. According to Williamson, the cause of preferential customer treatment is rooted in continuous, high-volume purchases at one and the same supplier.<sup>54</sup> Steinle and Schiele seem to share this view since they measure preferred customer status by looking at the share of sales going to one particular customer, among other things.<sup>55</sup> However, in doing so share of sales is seen as an indicator rather than as a source of preferred customer status. Also, the pricing behavior seems to play a role in determining preferred customer status.<sup>56</sup>

As a consequence of the literature insights, one could deduce that strategic supply risk is simply about the attractiveness of the buyer to the supplier and would thus fit entirely into existing ‘customer attractiveness’ literature<sup>57</sup>. However, it is not sure whether customer attractiveness tells the whole story about strategic supply risk. The results of the qualitative data analysis could for instance reveal that suppliers treat those customers preferentially which they are dependent on – simply because they have to in order to survive. Naturally, the findings could also indicate that suppliers will prevent becoming dependent on a buyer at all cost and thus will treat such unattractive buyers non-preferentially or will reject to engage in an exchange relationship in the first place. Thus, for the purpose of this paper a preferred customer is defined as a customer benefitting from preferential resource allocation. By relying on the preferred customer concept for defining strategic supply risk and by describing preferred customers simply as those benefitting from preferential resource allocation<sup>58</sup>, the issue of attractiveness is deliberately excluded. The study results will show whether strategic supply risk is congruent with customer attractiveness, related to customer attractiveness or not connected to customer attractiveness at all.

This brings us back to the initial question about the nature of strategic supply risk. In short, the less the supplier literally cares about a particular customer, the greater the strategic supply risk for the purchasing entity. High strategic supply risk is thought to

---

<sup>53</sup> Williamson (1991), p. 81.

<sup>54</sup> See Williamson (1991), p. 81ff.

<sup>55</sup> See Steinle/Schiele (2008), p. 12.

<sup>56</sup> See Steinle/Schiele (2008), p. 11; Schiele et al. (2010), p. 1ff.

<sup>57</sup> See e.g. Christiansen (2002), p. 177ff; Ellegaard (2003), p. 346ff; Mortensen et al. (2008), p. 799ff; Ramsay/Wagner (2009), p. 127ff.

<sup>58</sup> See Steinle/Schiele (2008), p. 11.



entail for instance that the supplier is slack in meeting the agreed-upon requirements of the buyer and, despite being technically able to supply at the stipulated specifications, decides to comply with them only partially or not at all. Also, non-preferred customers will not be able to benefit from potential preferred customer benefits such as special services<sup>59</sup>, lower prices<sup>60</sup> and higher supplier innovativeness<sup>61</sup>.

Possible reasons for preferential customer treatment are manifold. One could imagine for instance that buying companies will not be treated preferentially if they are known for late payments, treating their suppliers unfairly or changing their requirements frequently. Another conjecture is that strategic supply risk is latently present but is more likely to become virulent during economic upswings, when suppliers' order books are full or even full to overflowing with customer orders forcing suppliers to choose whom to supply with which amount and when.<sup>62</sup> Moreover, it seems that preferred customer status also shows in times of limited availability of supply due to for example resource shortages.<sup>63</sup>

Potential indicators of strategic supply risk could be that the supplier shows little if any interest in cooperating with the buyer or that the supplier is either not at all responsive to the buyer's requests or only shows a lagged reaction. Another possible indicator could be that the supplier frequently fails to deliver on-time or meet the quality criteria. Following from the literature, pricing behavior and in particular markups appear to indicate strategic supply risk, too.<sup>64</sup>

Conceivable detrimental effects of strategic supply risk for the buying company are not being supplied on-time, with the correct amount, at the appropriate quality or not at all. Further, it is reckoned that the detrimental effects are especially severe in boom times. When demand is high and capacities at the suppliers are short a company's ability to assure adequate supply (for instance through preferred customer status) can be decisive for its business performance. Other conceivable consequences are that it proves to be cumbersome to engage in long-term planning or development

---

<sup>59</sup> See Gwinner et al. (1998), p. 105.

<sup>60</sup> See Schiele et al. (2010), p. 11.

<sup>61</sup> See Schiele et al. (2010), p. 11.

<sup>62</sup> See e.g. Levitt (1980), p. 85; Williamson (1991), p. 127.

<sup>63</sup> See Lewin/Johnston (1997), p. 28.

<sup>64</sup> See Steinle/Schiele (2008), p. 11; Schiele et al. (2010), p. 1ff.

projects with the supplier and that the supplier does not stick to legally non-binding agreements such as verbally promising to respond to a request for proposal within a certain period of time.

As mentioned in the introduction, treating the risk of not being a preferred customer as distinct supply risk requires embedding it in supply risk management systems. Therefore, elaboration on how supply risk management systems are structured in general is needed.

#### ***2.4 Supply risk management systems: Sources, indicators and mitigation/reduction strategies***

As mentioned, the practical purpose of this research is to present first guidelines for managers on how to set up an effective strategic supply risk management system. Literature essentially identifies three main principles of managing supply risks. These are risk identification, risk assessment and risk mitigation/ reduction.<sup>65</sup> Hence, a supply risk management system is a reoccurring process consisting of three steps.<sup>66</sup> The first step is to identify the risk sources effecting and originating from inbound supply. In the second step, risk indicators for assessing and monitoring the respective risks are developed and applied. For doing so, the assumed likelihood of the loss is multiplied with the anticipated significance of the loss in case the adverse event occurs.<sup>67</sup> Eventually, the results of the risk identification and assessment steps lead to tools/ methods for dealing with the supply risk.<sup>68</sup> There are mainly two ways of dealing with supply risk. The first option is to mitigate the significance of the loss, i.e. to mitigate/ diminish the supply risk effect.<sup>69</sup> An example would be a company which practices dual sourcing so that in case one supplier fails, there is another that can be drawn upon. However, such a strategy does not decrease the likelihood of an adverse event to occur. This would be option two. Risk reduction entails that

---

<sup>65</sup> See e.g. Harland et al. (2003), p. 56; Kleindorfer/Saad (2005), p. 2f; Blackhurst (2008), p. 145; Pavlou/Manthou (2008), p. 604; Schoenherr et al. (2008), p. 101f; Knemeyer (2009), p. 142; Mullai (2009), p. 86; Neiger et al. (2009), p. 154.

<sup>66</sup> See e.g. Kleindorfer/Saad (2005), p. 2; Mullai (2009), p. 87.

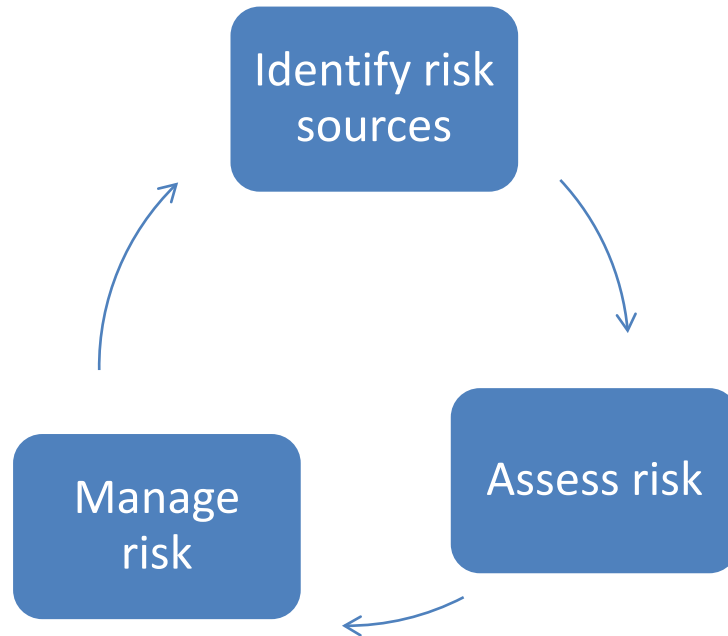
<sup>67</sup> See Hallikas et al. (2002), p. 53.

<sup>68</sup> See Neiger et al. (2009), p. 165.

<sup>69</sup> See Norrman (2004), p. 437; Schoenherr et al. (2008), p. 101.

companies strive for reducing, or in the best case eliminating, the risk source.<sup>70</sup> An example is for instance to help the supplier improving its quality of production in order to reduce the rate of rejects. The figure below visualizes the described steps in supply risk management systems.

Figure 3 – Supply risk management system



So far, scholars have mainly focused on parts of or aspects related to supply risk management systems. Hallikas for instance analyzed risks vested in buyer-supplier relationships<sup>71</sup> as well as risk management processes in supply networks<sup>72</sup>, whereas Wu focused on developing an inbound risk analysis model<sup>73</sup>. Yet others shed light on measuring supply risk management performance<sup>74</sup> and its connection to the financial performance of the overall company<sup>75</sup>, on ranking suppliers based on risk<sup>76</sup>, on assessing/ identifying supply risks<sup>77</sup>, on reducing/ mitigating supply risk<sup>78</sup>, as well as

<sup>70</sup> See Kleindorfer/Saad (2005), p. 14.

<sup>71</sup> See Hallikas et al. (2005), p. 72.

<sup>72</sup> See Hallikas (2004), p. 47.

<sup>73</sup> See T. Wu (2006), p. 350.

<sup>74</sup> See Otto (2003), p. 306; Ritchie (2007), p. 303.

<sup>75</sup> See Carr/Pearson (1999), p. 497.

<sup>76</sup> See Levary (2007), p. 392; Yang et al. (2009), p. 613.

<sup>77</sup> See Zsidisin et al. (2000), p. 187; Zsidisin (2004), p. 397; Adhitya et al. (2009), p. 1447. T. C. Wang/Hsueh (2009), p. 109.

<sup>78</sup> See Kull/Talluri (2008), p. 409; Reiner et al. (2009), p. 1780; Y. Wang et al. (2010), p. 489.

on how to successfully manage risks in supply chains, networks and partnerships<sup>79</sup>. However, for exploring the phenomenon of strategic supply risk thoroughly, all three aspects of supply risk management systems have to be scrutinized. Buyers will not be able to successfully deal with strategic supply risk unless they can identify the sources and monitor them. Moreover, developing an encompassing strategic supply risk theory will fail if the phenomenon is only examined partially. Thus, this exploratory study analyzes the sources, the indicators and the tools of strategic supply risk by separately coding for sources, indicators and tools. The results can then be used as a basis for designing effective strategic supply risk management systems as well as for developing a distinct theory of strategic supply risk.

### **3 Embedding strategic supply risk into existing theories**

#### ***3.1 Resource dependence theory: Lowering strategic supply risk through increasing supplier dependence?***

The resource dependence theory experienced its formal birth with the publication of Pfeffer and Salancik's influential book carrying the title "The external control of organizations: A resource dependence perspective"<sup>80</sup>. It has its roots in sociological theories trying to explain the behavior of individuals based on their relative power positions.<sup>81</sup> According to the resource dependence theory a firm's survival is "contingent on its ability to gain control over environmental resources"<sup>82</sup>. However, a company cannot achieve complete control over all resources pivotal to their survival. Mostly, some resources necessary for a firm's survival are not inherent to the company and therefore have to be recruited from the environment, i.e. mainly from other organizations such as competitors, suppliers and partners.<sup>83</sup>

Therefore, the resource dependence approach argues that the intra-organizational behavior of a firm is determined by the extent to which it depends on the resources of

---

<sup>79</sup> See Das/Teng (1999), p. 50; Chopra/Sodhi (2004), p. 53; Wagner/Johnson (2004), p. 717; Singh et al. (2005), p. 3375; Ellegaard (2008), p. 425.

<sup>80</sup> Pfeffer/Salancik (1978).

<sup>81</sup> See B. L. Johnson (1995), p. 4f.

<sup>82</sup> Boyd (1990), p. 420.

<sup>83</sup> See Schwaiger/Meyer (2009), p. 31.

another company.<sup>84</sup> Hence, it is asserted that a given company is dependent on those entities in its environment which possess and control resources crucial to its survival.<sup>85</sup> Company X's power over company Y is thus equal to company Y's dependence on company X's resources. It has to be remarked that the term 'resource' in this context is to be defined broadly and refers to materials, capital, technologies and social legitimacy, among others.<sup>86</sup>

Moreover, the resource dependence approach claims that companies react to the described circumstances by following three principles.<sup>87</sup> The first one is to secure the company's access to the resources critical to their survival.<sup>88</sup> Secondly, companies aim at reducing the negative effects of the external constraints on their freedom of action.<sup>89</sup> Last but not least, companies will strive for maximizing their autonomy from the environment they are situated in.<sup>90</sup>

Another important assertion of the resource dependence approach is that inter-firm relationships can be classified according to the relative power positions of the engaged firms. All in all, four relationship categories can be distinguished: mutual independence, mutual dependence, unbalanced independence, and unbalanced dependence.<sup>91</sup> Balanced is to be understood as in equal level of dependence. A situation of mutual independence refers to a loose and balanced relationship between two firms, whereas a tight and balanced relationship represents a situation of mutual dependence or interdependence. In the former situation, both firms are able "to break off the relationship without any penalty"<sup>92</sup>. The latter situation entails that both parties have an equal amount of sway over each other. In a situation of unbalanced independence two companies are engaged in a loose relationship with one company having significantly more power over the other and hence greater freedom to act. Last but not least, an unbalanced dependence denotes a tight relationship with one company being significantly more dependent on the other and being able to dominate its counterpart.

---

<sup>84</sup> See Pfeffer/Salancik (1978), p. 1ff.

<sup>85</sup> See Schwaiger/Meyer (2009), p. 31.

<sup>86</sup> See Schwaiger/Meyer (2009), p. 32.

<sup>87</sup> See B. L. Johnson (1995), p. 7.

<sup>88</sup> See Schwaiger/Meyer (2009), p. 36.

<sup>89</sup> See Benson (1975), p. 232ff.

<sup>90</sup> See Silver (1993), p. 487ff.

<sup>91</sup> See de Wit/Meyer (2004), p. 365.

<sup>92</sup> de Wit/Meyer (2004), p. 365.

Taking a look at buyer-supplier relationships, it becomes apparent why the resource dependence approach fits well to buyer-supplier relationships. In fact, the exchange and control of resources are at the core of this approach. What is more, buyers and suppliers engage in a resource exchange relationship. The buyer needs the product or the service, and the supplier usually the money of the buyer it gets in return. Therefore, buyer and supplier depend to varying degrees on each other's resources. But how could resource dependence theory explain strategic supply risk?

According to the three outlined principles of company behavior, firms aim at maximizing their autonomy and reducing the negative effects of being dependent.<sup>93</sup> However, this might not always be possible, in particular in cases of (un-)balanced dependence. Applied to the case of buyer-supplier relationships, unbalanced dependence entails that the supplier is to a greater extent dependent on the buying company's resources, such as money and machines, than the buyer is dependent on the supplier's resources such as supplied products and knowledge. Naturally, buyers can also be more dependent on the supplier. However, for applying resource dependence theory to strategic supply risk, especially the case of an unbalanced dependence with the supplier being the more dependent party seems to be of relevance.

Lincoln et al. for instance report that large, powerful firms in Japan receive preferential treatment from small firms because they depend on the large firm's business<sup>94</sup> and resources such as managerial skills and improved credit standing<sup>95</sup>. Through preferential resource allocation, the suppliers opt to 'persuade' the buyers which they are dependent on to continue the exchange relationship. This secures the suppliers' access to the buyers' resources. Therefore, Lincoln et al. conclude that "asymmetries of power and dependence [...lead to an...] uneven distribution of economic benefits"<sup>96</sup> - that is to say more for large, powerful customers, less for small buyers. Thus, it seems reasonable to argue that buyers' power over suppliers leads to preferential treatment and therefore to low strategic supply risk.

---

<sup>93</sup> See Benson (1975), p. 232ff; Silver (1993), p. 487ff; B. L. Johnson (1995), p. 7; Schwaiger/Meyer (2009), p. 36.

<sup>94</sup> See Lincoln et al. (1992), p. 562.

<sup>95</sup> See Lincoln et al. (1992), p. 566.

<sup>96</sup> Lincoln et al. (1992), p. 563.

Consequently, the supplier's independence from the buyer would be a source of strategic supply risk.

Another string of thought could be that buyers which have the power over suppliers squeeze them for profits. This has for instance been observed in several studies concerning the automotive industry.<sup>97</sup> In such a situation, by 'forcing' suppliers to allocate resources to them and not to other, less-powerful buyers, buyers would use their "power advantage"<sup>98</sup> over the supplier to reduce their strategic supply risk. It goes without saying that this line of reasoning would contradict the customer attractiveness literature which argues that buyers gain preferred customer status because they are attractive to the suppliers and not through coercion.<sup>99</sup>

### ***3.2 Relational view: Competitive advantage and low strategic supply risk through relational competence?***

The relational view has its roots in the resource-based approach and can be seen as extension of the latter.<sup>100</sup> Therefore, in order to understand the relation view, it is necessary to introduce the resource-based approach first. The resource-based approach and its "management-oriented derivative, the concept of core competencies"<sup>101</sup> focus on a firm's resources as the factor of competitive advantage<sup>102</sup>. The subjacent assumption is that there is a direct link between a firm's internal characteristics and its performance.<sup>103</sup> Also, it is argued that not only resources as such but also their accumulation can sustain competitive advantage.<sup>104</sup> Moreover, the resource-based approach assumes that by and large a firm's resources and capabilities shape its identity.<sup>105</sup> In consequence, by stating that firms can achieve competitive advantage if they focus on their internal resources and capabilities, the resource-based approach takes on an inside-out perspective. As it

---

<sup>97</sup> See Dore (1983), p. 466.

<sup>98</sup> Gulati/Sytch (2007), p. 32.

<sup>99</sup> See e.g. Moody (1992), p. 52; Ellegaard (2003), p. 346; Harris et al. (2003), p. 9; Mortensen et al. (2008), p. 799; Hald et al. (2009), p. 960.

<sup>100</sup> See Lavie (2006), p. 638; Gold (2010), p. 230.

<sup>101</sup> Duschek (2004), p. 54.

<sup>102</sup> See Amit/Schoemaker (1993), p. 37.

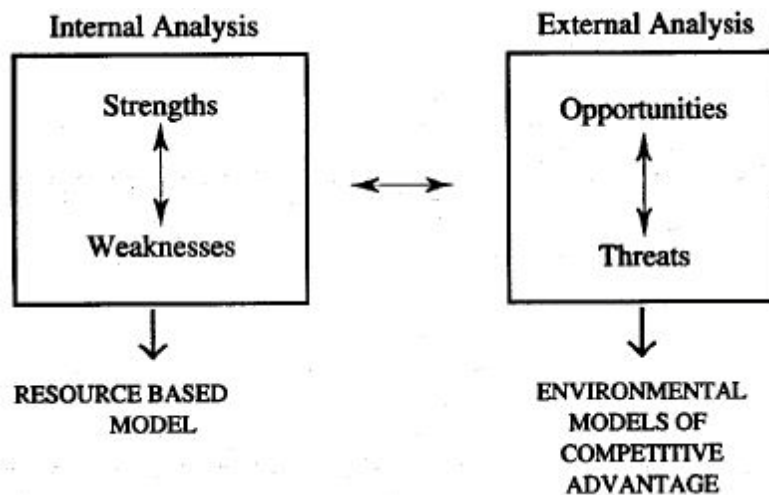
<sup>103</sup> See Barney (1991), p. 100f.

<sup>104</sup> See Dierickx/Cool (1989), p. 1504.

<sup>105</sup> See Grant (1991), p. 116.

can be seen in the figure below, this theory is thus different from models of industry attractiveness, i.e. models focusing on the environment as a source of competitive advantage<sup>106</sup>.

Figure 4 – The resource-based approach versus environmental models<sup>107</sup>



It is important to keep in mind that not all resources of a firm have the potential of being a source of competitive advantage. In order to have competitive potential resources must fulfill the VRIN criteria, meaning they must be valuable, rare, imperfectly imitable, and non-substitutable.<sup>108</sup> Resources are considered valuable if they enable firms to implement strategies improving their efficiency and effectiveness.<sup>109</sup> Moreover, resources being a source of competitive advantage must also be rare<sup>110</sup> and in order to ensure that they stay rare, they need to fulfill two further criteria. They need to be hard to imitate, i.e. difficult to be obtained and produced by other firms,<sup>111</sup> and secondly, there must not be any substitutes that is to say competing firms cannot obtain similar, valuable resources<sup>112</sup>.

For explicating the connection between the relational view and the resource-based approach the terms 'resources' and 'capabilities' have to be clarified. Broadly

<sup>106</sup> Probably the most famous example is Porter's "five-forces model" (Porter (1980), p. 1ff.)

<sup>107</sup> Barney (1991), p. 100.

<sup>108</sup> See Barney (1991), p. 105f; Bingham/Eisenhardt (2008), p. 241.

<sup>109</sup> See Barney (1991), p. 106; Madhani (2010), p. 43.

<sup>110</sup> See Wernerfelt (1984), p. 173; Barney (1991), p. 106f.

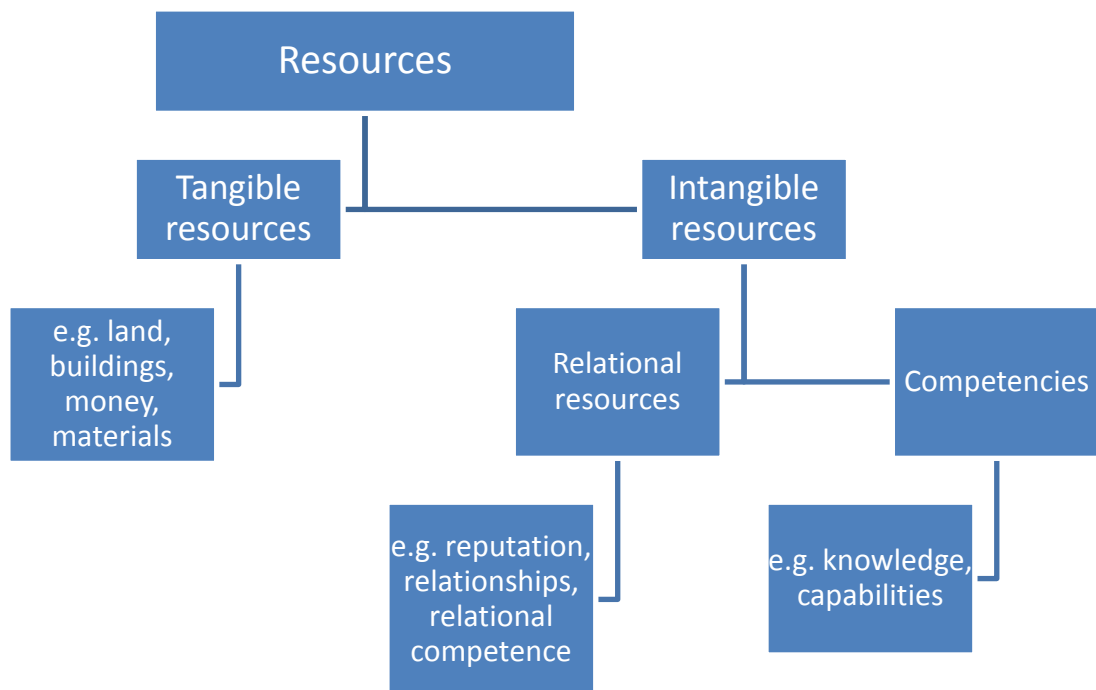
<sup>111</sup> See Barney (1991), p. 107ff; L.-Y. Wu/Wang (2007), p. 252.

<sup>112</sup> See Dierickx/Cool (1989), p. 1504; Barney (1991), p. 111f; L.-Y. Wu/Wang (2007), p. 253.



defined, resources are all firm-specific assets, organizational processes, firm attributes and knowledge,<sup>113</sup> whereas capabilities can be described as an organization's bundle of individual skills, assets and accumulated knowledge vital for carrying out particular activities.<sup>114</sup> Commonly, firm resources are classified according to the following scheme.

Figure 5 – Resource classification scheme<sup>115</sup>



The relational view is distinct from the resource-based approach through its network, relational competence and inter-firm focus.<sup>116</sup> Its focus is on one particular type of intangible resources: on relational resources. One main critique of the resource-based view put forward by relationalists is its assumption that “supernormal earnings”<sup>117</sup> result from resources controlled by one single firm. Relationalists, in contrast, argue that resources such as relational rents<sup>118</sup> are also created through the interaction between firms that is to say they are embedded in networks and dyads.<sup>119</sup> In

<sup>113</sup> See Barney (1991), p. 101; Teece et al. (1997), p. 513; Gold (2010), p. 232.

<sup>114</sup> See Olavarrieta (1997), p. 563; de Wit/Meyer (2004), p. 243.

<sup>115</sup> Adapted from de Wit/Meyer (2004), p. 243.

<sup>116</sup> See Dyer/Singh (1998), p. 661; Duschek (2004), p. 61; Gold (2010), p. 232.

<sup>117</sup> Duschek (2004), p. 54.

<sup>118</sup> See e.g. Dyer/Singh (1998), p. 661f; De Clercq/Sapienza (2001), p. 107; Lavie (2006), p. 641f; Dyer et al. (2008), p. 137ff.

<sup>119</sup> See Dyer/Singh (1998), p. 661; Duschek (2004), p. 53ff.

consequence, relationalists maintain that firms achieve and sustain competitive advantage by working on their relational competence for instance through interacting with other companies.

The relational view can be applied to buyer-supplier relationships because buyer and supplier interact, exchange resources and engage in a dyad or even network. Following the relational view, it is among others such relationships through which intangible resources can be generated which can help the interconnected parties to achieve competitive advantage. For applying the relational view to strategic supply risk the concept of “relational competence”<sup>120</sup> appears to be of high relevance.

As Conner notes, intangible inputs that cannot be purchased are more likely to be a source of competitive advantage than purchasable inputs.<sup>121</sup> Relational competence could be an example of such ‘intangible inputs’. Therefore, the relational competence of the buyer can be thought of as crucial for establishing rare and valuable buyer-supplier relationships which are hard to be imitated and substituted. Also, the buyer’s relational competence could make the buyer attractive to suppliers for it could generate competitive advantage. As the customer attractiveness literature<sup>122</sup> argues, the more attractive a buyer is to a supplier, the greater is the commitment of the supplier.<sup>123</sup> Therefore, based on the relational view strategic supply risk could be reduced through outstanding relational competence. Low relational competence, as compared to other buyers of the supplier, would consequently be a source of strategic supply risk according to the relational view.

### ***3.3 Social capital theory: The three dimensions of social capital as strategic supply risk sources and tools?***

Although having emerged only recently as distinct (sociological) theory, the basic idea of social capital theory that “involvement and participation in groups can have

---

<sup>120</sup> Cox (1996), p. 57.

<sup>121</sup> Conner (1991), p. 137.

<sup>122</sup> See e.g. Moody (1992), p. 52; Ellegaard (2003), p. 346; Harris et al. (2003), p. 9; Mortensen et al. (2008), p. 799; Hald et al. (2009), p. 960.

<sup>123</sup> See Ellegaard (2003), p. 352.

positive consequences for the individual and the community”<sup>124</sup> is not new. It can already be observed in “Durkheim’s emphasis on group life as an antidote to anomie and self-destruction and [in] Marx’s distinction between an atomized class-in-itself and a mobilized and effective class-for-itself”<sup>125</sup>. The novelty of social capital theory is, however, that the focus is put on the positive outcomes and that it places these consequences within the general notion of capital.<sup>126</sup> But what exactly is meant with ‘social capital’?

Unfortunately, there is no definite agreement among scholars in answering this question. Initially, the term ‘social capital’ appeared in community studies<sup>127</sup> emphasizing “networks of strong, crosscutting personal relationships”<sup>128</sup> vital to the functioning of city neighborhoods. One of the first explicit conceptualizations stems from Bourdieu who described social capital as “the aggregate of the actual or potential resources which are linked to possession of a durable network of more or less institutionalized relationships of mutual acquaintance or recognition”<sup>129</sup>. Shortly after, Coleman approached social capital by defining it according to its function. In his opinion, social capital is vested in the relations between and among actors and refers to “a variety of different entities, with two elements in common: they all consist of some aspect of social structures, and they facilitate certain actions of actors - whether persons or corporate actors-within the structure”<sup>130</sup>. In agreement with Coleman, Baker concludes that “social capital is a resource that actors derive from specific social structures and then use to pursue their interests”<sup>131</sup>. Contrariwise, Putnam refers to social capital as “features of social organization, such as networks, norms, and trust that facilitate coordination and cooperation for mutual benefit”<sup>132</sup>. Likewise, Burt and also Portes hold the view that social capital is the ability/opportunity of actors to “secure benefits by virtue of membership in social networks”<sup>133</sup> and through “friends, colleagues and more general contacts”<sup>134</sup>. Also,

---

<sup>124</sup> Portes (1998), p. 2.

<sup>125</sup> Portes (1998), p. 2.

<sup>126</sup> See Portes (1998), pp. 2-3.

<sup>127</sup> See e.g. Jacobs (1961), p. 138.

<sup>128</sup> Nahapiet/Ghoshal (1998), p. 243.

<sup>129</sup> Bourdieu (1985), p. 248.

<sup>130</sup> Coleman (1988), p. 98.

<sup>131</sup> W. E. Baker (1990), p. 619.

<sup>132</sup> Putnam (1995a), p. 67.

<sup>133</sup> Portes (1998), p. 6.

<sup>134</sup> See Burt (1992), p. 9.

Portes argued that as opposed to economic capital, which is in people's bank accounts, and human capital, which is based inside people's minds, social capital "inheres in the structure of their relationships"<sup>135</sup>.

This brief review of social capital definitions shows three things. First, agreement on what social capital precisely refers to is missing. As outlined, some scholars for instance distinguish clearly between the opportunities provided by social networks for accessing other resources and these other resources themselves.<sup>136</sup> Other scholars in turn do not make this distinction or even equate social capital with the resources accessed through social networks.<sup>137</sup> Second, despite these differences there is consensus about the positive consequences of social capital. These have been described as "mutual assistance"<sup>138</sup>, "mutual benefit"<sup>139</sup>, "social trust"<sup>140</sup>, "aiding the formation of human capital"<sup>141</sup> and "facilitated resource exchange"<sup>142</sup>, among others. Last but not least, there is agreement that social capital rests in the relationship(s) of entities and individuals rather than in the entities/ individuals themselves.<sup>143</sup> Hence, social capital can be understood as 'public good', meaning it is not the "private property of those who benefit from it"<sup>144</sup>. It is important to add, however, that despite being 'public' social capital is not accessible to anyone. Instead it has the character of a "club good"<sup>145</sup> which can be accessed freely and without depletion through members of the respective social structure but is not available to outsiders.

Being originally a sociological construct, social capital theory has increasingly been applied to the business context in general<sup>146</sup> and to supply chain management in particular<sup>147</sup>. Irrespective of the different operationalizations of social capital,

---

<sup>135</sup> Portes (1998), p. 7.

<sup>136</sup> E.g. Bourdieu (1985), p. 248; Burt (1992), p. 9; Putnam (1995a), pp. 67-73; Portes (1998), pp. 6-9.

<sup>137</sup> E.g. Coleman (1988), pp. 98-119; W. E. Baker (1990), pp. 619-625; Putnam (1995b), p. 665.

<sup>138</sup> Portes (1998), p. 16.

<sup>139</sup> Putnam (1993), p. 36.

<sup>140</sup> Putnam (1995a), p. 66.

<sup>141</sup> Coleman (1988), p. 118.

<sup>142</sup> Tsai/Ghoshal (1998), p. 464.

<sup>143</sup> See e.g. Bourdieu (1985), p. 248ff; Coleman (1988), pp. 110-111; Putnam (1993), p. 39ff; Portes (1998), p. 18ff; McLure Wasko/Faraj (2005), p. 38.

<sup>144</sup> Putnam (1993), p. 39.

<sup>145</sup> Schiele (2001), p. 106.

<sup>146</sup> See e.g. Nahapiet/Ghoshal (1998), p. 242ff; Tsai/Ghoshal (1998), p. 464ff; Ahuja (2000), p. 425ff; Tsai (2000), p. 925ff; Adler/Kwon (2002), p. 17ff; Moran (2005), p. 1129ff; Petersen et al. (2008), p. 53ff.

<sup>147</sup> See e.g. Ireland/Webb (2007), p. 482ff; Krause et al. (2007), p. 528ff; Lawson et al. (2008), p. 446ff; Soonhong et al. (2008), p. 283ff.

reported positive effects of social capital in the business context range from increased cross-functional team effectiveness<sup>148</sup> through strengthened supplier relations<sup>149</sup> to improved inter-firm learning<sup>150</sup> and product innovation<sup>151</sup>. The reason why social capital theory can be applied to supply chain management is straightforward. Whenever suppliers interact with buyers, may it be in a dyad, cluster or network, they engage in a social relationship, also referred to as 'tie'<sup>152</sup>. The pivotal idea of social capital theory is that engaging in such relationships or in relationship networks provides participants with resources and benefits not accessible to outsiders. Thus, the idea is that by building networks/ dyads, buyer(s) and supplier(s) can create social capital and thereby profit from the potential benefits mentioned above.

With respect to the phenomenon of strategic supply risk, two interconnected benefits of social capital are of special importance. First of all, it has been observed that social capital enhances the exchange of and access to resources within networks/ dyads.<sup>153</sup> Second of all, study results suggest that this leads to value creation for the parties involved in a buyer-supplier relationship.<sup>154</sup> Recalling that strategic supply risk refers to the risk of not being a preferred customer that is to say not benefitting from preferential resource allocation through the supplier, it could be argued that since social capital increases resource access and exchange, it can decrease strategic supply risk. For describing the potential applicability of social capital theory to strategic supply risk in more detail, it is necessary to first of all break down the encompassing concept of social capital into several dimensions. One of the most prominent social capital classification schemes found in literature was developed by Nahapiet and Ghoshal. They distinguish between three interrelated dimensions of social capital: structural, relational and cognitive social capital.<sup>155</sup> Therefore, this classification scheme provides a useful vantage point for describing the applicability of social capital theory to strategic supply risk.

---

<sup>148</sup> See Rosenthal (1997), pp. 293-294.

<sup>149</sup> See W. E. Baker (1990), p. 619; Uzzi (1997), pp. 50-51.

<sup>150</sup> See Kraatz (1998), p. 621.

<sup>151</sup> See Tsai/Ghoshal (1998), p. 464; Hansen (1999), p. 107.

<sup>152</sup> See Seibert et al. (2001), p. 220.

<sup>153</sup> See McLure Wasko/Faraj (2005), p. 50.

<sup>154</sup> See Nahapiet/Ghoshal (1998), pp. 242-249.

<sup>155</sup> See Nahapiet/Ghoshal (1998), p. 243.

The first dimension, structural social capital, refers to the “overall pattern of connections between actors – that is who you reach and how you reach them”<sup>156</sup>. Speaking in terms of ties, the term structural denotes whether a network consists of weak, sparse, close or dense ties.<sup>157</sup> It is commonly argued that the stronger/ closer the social relationship is, the higher is the relationship’s level of reciprocity, indebtedness and closeness.<sup>158</sup> Moreover, following extant literature dense, close ties have several advantages over loose, weak ties. It has for instance been found that close ties facilitate building trust among actors,<sup>159</sup> enhance the sharing of and access to sensitive information,<sup>160</sup> lead to preferred treatment<sup>161</sup> and provide the actors with access to privileged economic resources<sup>162</sup>. In contrast, weak ties help accessing a greater diversity of information.<sup>163</sup> Two of the observed positive consequences of the structural dimension of social capital can be applied neatly to the phenomenon of strategic supply risk: preferred treatment and privileged access to resources. Thus, it can be argued that the higher the structural dimension of social capital in a buyer-supplier relationship, that is to say the closer the tie, the more likely is the buyer to benefit from preferential treatment in terms of resource access and allocation. Consequently, it is hypothesized that high structural social capital decreases strategic supply risk.

Relational capital represents the second dimension of social capital. It denotes the kind of relationships which actors have developed with each other over time.<sup>164</sup> The crucial factors for assessing the relational dimension of social capital are trust, trustworthiness and psychological attachment/ commitment.<sup>165</sup> In the context of buyer-supplier relationships, trust can be described as one party’s confidence in the reliability and integrity of the exchange partner<sup>166</sup>. Commitment on the other hand refers to the extent to which the exchange partners like to maintain the relationship

---

<sup>156</sup> Nahapiet/Ghoshal (1998), p. 244.

<sup>157</sup> See Moran (2005), pp. 1129-1131.

<sup>158</sup> See Granovetter (1973), p. 1361; Marsden/Campbell (1984), pp. 482-490; Rindfleisch (2001), p. 2.

<sup>159</sup> See Moran (2005), p. 452.

<sup>160</sup> See Rindfleisch (2001), p. 2.

<sup>161</sup> See Uzzi (1997), p. 43.

<sup>162</sup> See Coleman (1988), p. 99; Portes (1998), p. 4.

<sup>163</sup> See Frenzen/Nakamoto (1993), p. 362; Hansen (1999), p. 82.

<sup>164</sup> See Nahapiet/Ghoshal (1998), p. 244.

<sup>165</sup> See Putnam (1993), pp. 36-39; Nahapiet/Ghoshal (1998), p. 244.

<sup>166</sup> See Moorman et al. (1993), p. 82; Robert M. Morgan/Hunt (1994), p. 23; Inkpen (2000), p. 1027.

and the degree to which they perceive the need to maintain the relationship.<sup>167</sup> Research shows that trust enhances the exchange partners' inclination to share resources integral for high performance.<sup>168</sup> As Tsai and Ghoshal note, "when two parties begin to trust each other, they become more willing to share their resources without worrying that they will be taken advantage of by the other party"<sup>169</sup>. Moreover, trust is found to decrease the fear of opportunistic behaviors.<sup>170</sup> Based on these observations it appears plausible that the more trust/ commitment there is in a given buyer-supplier relationship that is that to say the higher the relational social capital, the better is the exchange of resources and the less likely is opportunistic behavior. Therefore, it is hypothesized that high relational social capital increases the chances of buyers to be a preferred customer and hence decreases strategic supply risk.

The third social capital dimension identified by Nahapiet and Ghoshal is the cognitive dimension. Cognitive social capital represents shared understandings, interpretations, values and systems of meaning.<sup>171</sup> Based on Steinle and Schiele's finding that great geographical and cultural proximity between buyer and supplier is conducive to gaining preferred customer status<sup>172</sup>, it is hypothesized that the higher the congruence between the values and systems of meaning of buyer and supplier, the easier it is for the buyer to become a preferred customer. This assumption is also supported by Jap's finding that complementary goals and capabilities of buyer and supplier facilitate idiosyncratic investments that is to say "nonfungible investments that uniquely support the buyer-supplier relationship"<sup>173</sup>.<sup>174</sup> Therefore, cognitive social capital is thought to decrease strategic supply risk.

Last but not least, attention has to be drawn to the interconnectedness of the three social capital dimensions. There is for instance evidence for both, relational capital being the antecedent of structural capital<sup>175</sup> and structural capital being a

---

<sup>167</sup> See Geyskens et al. (1996), p. 303.

<sup>168</sup> See Uzzi (1996), p. 678; Ridings et al. (2002), p. 271.

<sup>169</sup> Tsai/Ghoshal (1998), p. 467.

<sup>170</sup> See Bradach/Eccles (1989), p. 104; Tsai/Ghoshal (1998), p. 467; Tsai (2000), p. 928.

<sup>171</sup> See Nahapiet/Ghoshal (1998), p. 244; McLure Wasko/Faraj (2005), p. 39.

<sup>172</sup> See Steinle/Schiele (2008), pp. 3-5.

<sup>173</sup> Jap (1999), p. 464.

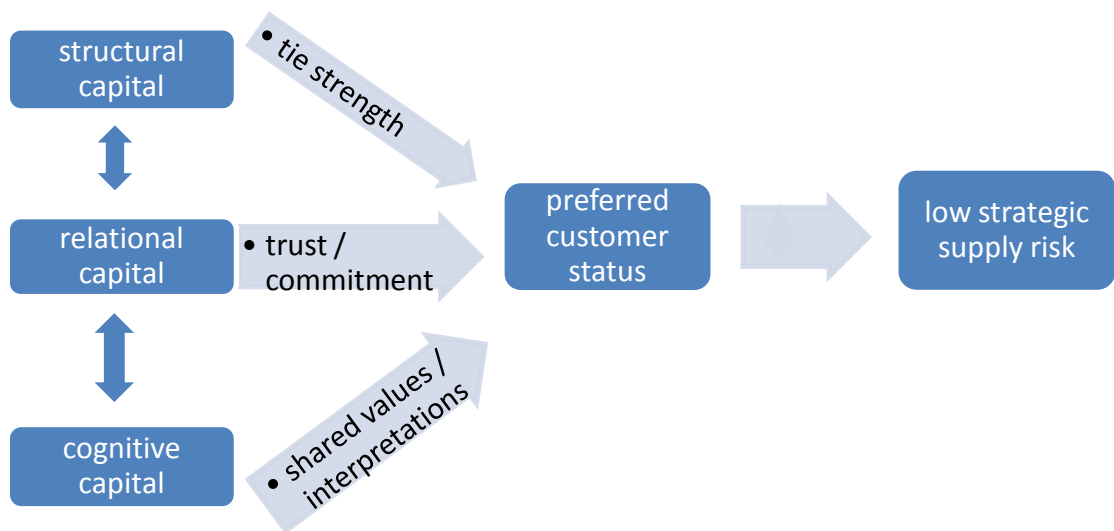
<sup>174</sup> See Jap (1999), p. 470.

<sup>175</sup> See e.g. Ramasamy et al. (2006), p. 133; Gu (2008), p. 12.

precondition for relational capital formation<sup>176</sup>. Also, it has been argued that cognitive social capital has a positive influence on structural and relational capital.<sup>177</sup> Therefore, it seems plausible that the anticipated risk reduction effects of the respective social capital dimension are likely to reinforce each other.

The following graphic visualizes how strategic supply risk is thought to be embedded in social capital theory.

Figure 6 - Embedding strategic supply risk in social capital theory



### ***3.4 Principal-agent theory: Strategic supply risk as a consequence of incomplete, ill-formulated contracts?***

“The relationship of agency is one of the oldest and commonest codified modes of social interaction.”<sup>178</sup> Over time, two main strand of principal-agent theory have emerged. Positivist agency theory deals with difficulties evolving from agency relationships whereas normative agency theory focuses on how contracts and institutions should be designed in order to solve these difficulties.<sup>179</sup> An agency relationship is considered to be present if “one or more persons (the principal(s))

<sup>176</sup> See e.g. Uzzi (1997), p. 43; Tsai/Ghoshal (1998), p. 465; Lawson et al. (2008), p. 448.

<sup>177</sup> See e.g. Tsai/Ghoshal (1998), p. 466.

<sup>178</sup> Ross (1973), p. 134.

<sup>179</sup> See Schwaiger/Meyer (2009), p. 133.



engage another person (the agent) to perform some service on their behalf which involves delegating some decision making authority to the agent”<sup>180</sup>. In order to analyze such situations, agency theory uses the construct of a contract governing the interaction by establishing the rights and duties of the principal and the agent.<sup>181</sup>

Further, positivist principal-agent theory claims that problems arise in case of an asymmetric information distribution between the principal and the agent.<sup>182</sup> Commonly it is distinguished between two types of such problems.<sup>183</sup> On the one hand, an asymmetric information distribution can prevent the contracting parties from being aware of existing conflicts of interest between principal and agent at the time the contract is developed and when it is eventually signed.<sup>184</sup> The other problem type relates to monitoring. It is often hard and at times impossible for the principal to observe everything the agent does and to assess how the agent performs.<sup>185</sup> This can lead to moral hazard which denotes the problem of “inducing agents to supply proper amounts of productive inputs when their actions cannot be observed and contracted for directly”<sup>186, 187</sup>. In combination with conflicting interests between the principal and the agent this can lead to opportunism which is defined as “self-interest seeking with guile”<sup>188</sup>. According to normative agency theory, opportunism can be counteracted by designing contracts which provide the agent with incentives inducing it to act in compliance with the principal’s interests.<sup>189</sup>

Principals, agents, contracts – all this is present in buyer-supplier relationships. When a firm decides to outsource it hires a supplier to provide it with the good and/or service needed. Consequently, the firm takes on the role of a principal who delegates work and decision authority to an agent, namely the supplier.<sup>190</sup> Also, a contract is signed in which the supplier and the firm agree on the rights and duties of

---

<sup>180</sup> Jensen/Meckling (1976), p. 308.

<sup>181</sup> Eisenhardt (1989), p. 58.

<sup>182</sup> See Laffont/Martimort (2001), p. 47.

<sup>183</sup> See Eisenhardt (1989), p. 58; G. P. Baker (1992), p. 601.

<sup>184</sup> See Martimort (1996), p. 18.

<sup>185</sup> See Gjesdal (1982), p. 373; Shapiro (1987), p. 633; Sappington (1991), p. 54; Sharma (1997), p. 761.

<sup>186</sup> Holmstrom (1982), p. 324.

<sup>187</sup> Some scholars identify a second type of moral hazard which refers to the “detrimental effect that insurance has on an individual’s incentives to avoid losses” (Winter (1992), p. 61.).

<sup>188</sup> Pedersen/Andersen (2006), p. 230.

<sup>189</sup> See Dees (1992), p. 28; Milgrom/Roberts (1992), p. 185ff; Koch (1995), p. 13; Pedersen/Andersen (2006), p. 233.

<sup>190</sup> See C. J. Corbett/Groote (2000), p. 445.

the two partners. This entails that the two potential threats, conflict of interest and moral hazard are also present in buyer-supplier relationships.

The phenomenon of strategic supply risk describes among others situations in which the supplier could deliver at the criteria agreed upon, but decides not to. Given that the supplier would be able to act in the interest of the buyer, opportunism, when suppliers seek their self-interest rather than that of the buyer, represents a situation of strategic supply risk – the supplier is technically able to supply, but prefers to supply other customers. Research evidence suggests that detailed contracts, however, can reduce opportunism and therefore presumably also a buyer's strategic supply risk. Wuyts and Geyskens for instance conclude that detailed contracts reduce opportunism when combined with network embeddedness.<sup>191</sup> In addition, Wathne and Heide observe that thorough contract design clarifying the duties and rights of both partners safeguards investments via the prevention of opportunistic renegotiations.<sup>192</sup> Similarly, Mooi finds that higher “contract specificity”<sup>193</sup> lowers “ex post transaction costs”<sup>194</sup> such as sloppy customer service and deliveries beyond schedule.<sup>195</sup> Therefore it seems reasonable to argue that following principal-agent theory strategic supply risk is rooted in loosely formulated contracts and can be counteracted through crafting detailed supply contracts.

## **4 Empirical data collection and analysis**

### ***4.1 The World Café: Concept, structure and realization of the supply risk***

#### ***workshop***

The qualitative data on which this research is based was collected during a two-day supply risk workshop organized by the Universiteit Twente<sup>196</sup>, the management consultancy h&z<sup>197</sup> and the BME<sup>198</sup>. It took place in Munich, Germany, in autumn

---

<sup>191</sup> See Wuyts/Geyskens (2005), p. 103.

<sup>192</sup> See Wathne/Heide (2000), p. 42.

<sup>193</sup> Mooi (2010), p. 110.

<sup>194</sup> Mooi (2010), p. 116.

<sup>195</sup> See Mooi (2010), p. 108.

<sup>196</sup> More information on the University of Twente can be found under <http://www.utwente.nl/en>.

<sup>197</sup> More information on h&z can be found under <http://www.huz.de/>.

<sup>198</sup> More information on the BME (German Association Materials Management, Purchasing and Logistics) can be found under <http://www.bme.de/>.

2009. Overall, sixteen purchasing managers from Germany, Austria and Luxembourg employed at thirteen different companies from a diverse range of industries such as the pharmaceutical industry, the electronics industry, the construction industry, and the clothing industry attended the workshops. To begin with, four supply risk categories (environmental/ political, financial, operative and strategic supply risk) were introduced and explained to the participants. The first three risk categories reflect common supply risk classification schemes found in literature<sup>199</sup> with environmental supply risk being associated with external events such as earthquakes, financial risk referring to financial problems of the supplier and operational risk denoting operative troubles such as quality problems at the supplier. As shown earlier, strategic supply risk is not found as distinct type of supply risk in the literature yet. It was introduced as ‘the risk of not being a preferred customer’ to the purchasing managers.

Subsequently, it was elaborated on the different steps of supply risk management systems. These are risk identification, measurement and management.<sup>200</sup> The following four discussion rounds were organized according to the World Café Method<sup>201</sup> and consisted of four simultaneous discussions on each supply risk type. Invented by Juanita Brown<sup>202</sup>, the World Café can be thought of as an organizational or social design process for enhancing “the human capacity for collaborative thought”<sup>203</sup> and “stimulating scholarly dialogue”<sup>204</sup>. Due to the several rounds of discussion and the participants moving from table to table, “knowledge-sharing grows”<sup>205</sup> and “cross-pollination of ideas”<sup>206</sup> can be achieved.

In applying this method, the goal was to initiate open, yet topic-focused discussion with every participant joining in. Such is especially fruitful when exploring a new concept such as strategic supply risk. In total, there were four tables – one for each

---

<sup>199</sup> See e.g. M. E. Johnson (2001), p. 110; Zsidisin (2003a), p. 217; Chopra/Sodhi (2004), pp. 54-57; Hallikas et al. (2005), p. 76; Manuj (2008a), p. 133.

<sup>200</sup> See e.g. Harland et al. (2003), p. 56; Kleindorfer/Saad (2005), pp. 2-3; Blackhurst (2008), p. 145; Pavlou/Manthou (2008), p. 604; Schoenherr et al. (2008), p. 101; Knemeyer (2009), p. 142; Mullai (2009), p. 86; Neiger et al. (2009), p. 154.

<sup>201</sup> See Brown/Isaacs (2005), p. 1ff.

<sup>202</sup> See Schieffer et al. (2004a), p. 1.

<sup>203</sup> Schieffer et al. (2004a), p. 2.

<sup>204</sup> Delaney et al. (2006), p. 46.

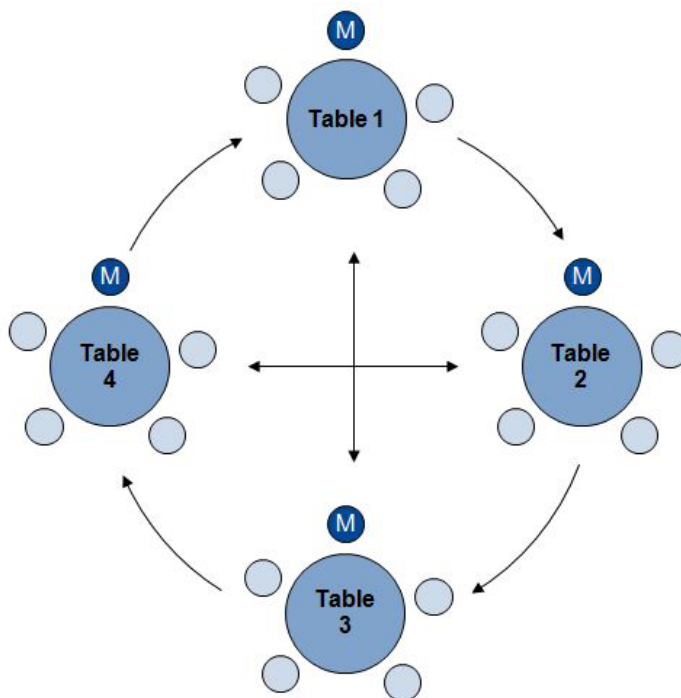
<sup>205</sup> Schieffer et al. (2004a), p. 2.

<sup>206</sup> Schieffer et al. (2004b), p. 3.

supply risk category. The four types of supply risk were discussed with the aim of identifying specific risk sources and indicators, as well as measures against the respective type of supply risk. Moreover, a moderator (M) was assigned to each table whose tasks were to note down the main discussion points, to ensure the discussion would not go off the subject and to summarize the thoughts of the previous discussion group(s) to the following one. Further, the moderator made sure that all aspects of supply risk management systems (sources, indicators, tools) were discussed. Besides that, the moderator did not interfere in the open discussion.

Next to the moderator, three to four purchasing managers discussed at each table. After approximately 30 minutes, the discussions were interrupted and each participant had to switch to a new table at which a different type of supply risk would be debated. Unlike the participants, the moderators stayed at their respective table. After two hours the discussions were brought to an end. By then every purchasing manager had visited each table and thus had discussed all four risk types. Below, a graphical representation of the described process can be seen.

Figure 7 – The World Café



Each of the overall sixteen 30-minutes discussions was recorded and subsequently transcribed. This study uses the transcriptions of the four discussion rounds at the strategic supply risk table for conducting qualitative research on the phenomenon of

strategic supply risk. The following chapter will elaborate on which methods were followed for coding and analyzing the qualitative data in detail.

#### ***4.2 Qualitative data analysis: Having codes evolve inductively from collected data versus deriving codes deductively from theory***

As pointed out, the data collected and to be analyzed for this study is of qualitative nature. Qualitative data, as opposed to quantitative data, can be described as non-numerical data which comes in the form of words and pictures rather than numbers.<sup>207</sup> Moreover, the research carried out is qualitative research which is “best understood as data enhancer. When data are enhanced [through qualitative data methods], it is possible to see key aspects of cases more clearly”<sup>208</sup>. Since the aim is to ‘enhance’ the transcriptions of the four discussion rounds in order to find out about which sources, indicators and tools against strategic supply risk exist, the collected qualitative data is analyzed through coding. Coding refers to organizing the raw data into conceptual categories and creating themes, categories and codes,<sup>209</sup> which “represent the decisive link between the original raw data [...] and the researcher’s theoretical concepts”<sup>210</sup>. It is carrying out “two simultaneous activities: mechanical data reduction and analytic categorization of data into themes”<sup>211</sup>. A good code is considered to be a code which “captures the qualitative richness of the phenomenon”<sup>212</sup>.

Two opposite ways of coding will be applied in this study: deductive and inductive coding. Generally speaking, the inductive approach “begins with concrete empirical details, [and] then works toward abstract ideas or general principles”<sup>213</sup>. Therefore, inductive coding, or “data-driven”<sup>214</sup> and “qualitative”<sup>215</sup> coding as it is also called, means that codes evolve from the data while coding. Thus, there are no predefined codes. Instead the codes are amended continuously during the coding process as the

---

<sup>207</sup> See Miles/Huberman (1994), p. 1; Neuman (2003), p. 35.

<sup>208</sup> Ragin (1994), p. 92.

<sup>209</sup> Neuman (2003), p. 441.

<sup>210</sup> Kelle (1995), p. 52.

<sup>211</sup> Neuman (2003), p. 442.

<sup>212</sup> Boyatzis (1998), p. 31.

<sup>213</sup> Neuman (2003), p. 537.

<sup>214</sup> Boyatzis (1998), p. 29.

<sup>215</sup> Richards (2010), p. 94.

researchers see fit. In contrast to deductive coding, the inductive approach considers coding as part of the analysis for the “coders are doing analytical work [and are] involved in project interpretation”<sup>216</sup>. For exploring strategic supply risk sources, indicators and tools, the inductive approach is followed. Codes are created and adjusted while coding. Moreover, three separate rounds of coding will be conducted – one for the sources, one for the indicators and one for the tools of strategic supply risk. Afterwards, the found codes are grouped into categories in order to reveal underlying themes and connections.

Contrariwise, deductive coding refers to what scholars have also referred to as “quantitative”<sup>217</sup>, “theory-driven”<sup>218</sup>, “a priori”<sup>219</sup>, “theory-first”<sup>220</sup> and “conceptual”<sup>221</sup> coding. The deductive approach entails starting out with a theory or a conceptual framework which is subsequently put to the test with the help of the collected qualitative data.<sup>222</sup> It is different from inductive coding inasmuch as deductive coding is seen as a “clerical task that can be severed from analysis”<sup>223</sup>. This means that with deductive coding the analysis is vested in creating the codes and scrutinizing the meaning of the coding results afterwards but not in coding itself. The deductive approach is employed for exploring the applicability of the different theories to strategic supply risk. Thus, for the deductive coding part codes are deduced from the identified theories such as the relational view. These predefined codes are neither changed throughout the coding process, nor afterwards. The more often codes from a respective theory appear in the data, the better does it seem to capture the phenomenon of strategic supply risk.

---

<sup>216</sup> Richards (2010), p. 94.

<sup>217</sup> Richards (2010), p. 94.

<sup>218</sup> Boyatzis (1998), p. 29.

<sup>219</sup> Miles/Huberman (1994), p. 64.

<sup>220</sup> Wolcott (1992), p. 154.

<sup>221</sup> Popper (1968), p. 37.

<sup>222</sup> See Miles/Huberman (1994), p. 155.

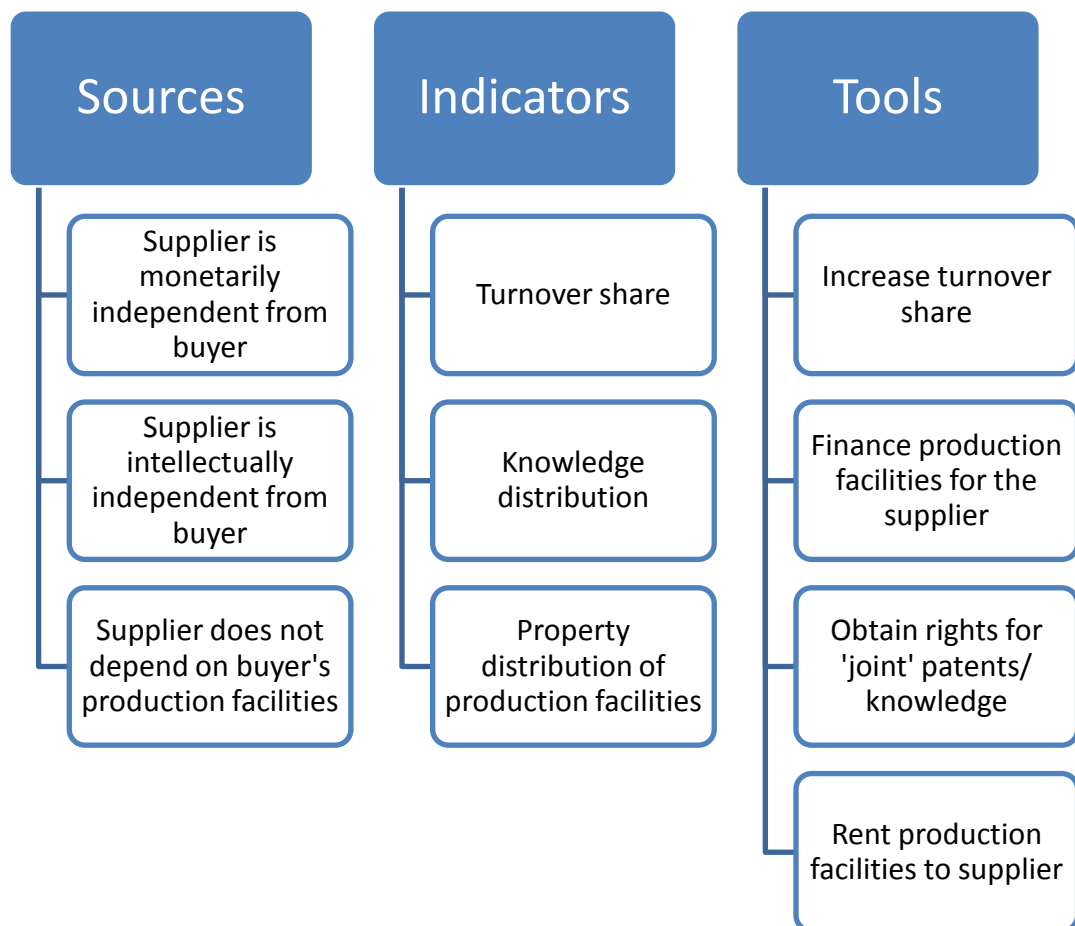
<sup>223</sup> Richards (2010), p. 94.

### 4.3 *Developing a research framework and coding scheme in order to explore the applicability of the identified theories*

In order to cast light on the applicability of the discussed theories, codes had to be developed for each theory. As described in the methods section, these codes were deduced from theory and were not changed throughout the coding process.

The examination of the resource dependence theory and its potential applicability to the phenomenon of strategic supply risk resulted in the following codes.

Figure 8 – Deduced codes for the resource dependence theory



In total, ten codes were identified for the resource dependence theory. The main idea of the resource dependence theory is that firms have power over each other due to the

resources they possess. Regarding strategic supply risk this possibly entails that suppliers will treat those customers preferentially whose resources they are dependent on. Buyers must thus possess resources, tangible or intangible, which are valued by the supplier. Overall, dependence can be grouped into three categories: money, knowledge, facilities. Hence, the codes for the sources of strategic supply risk according to resource dependence theory deal with the supplier's independence from the buyer's resources. The next step was to identify codes for the indicators.

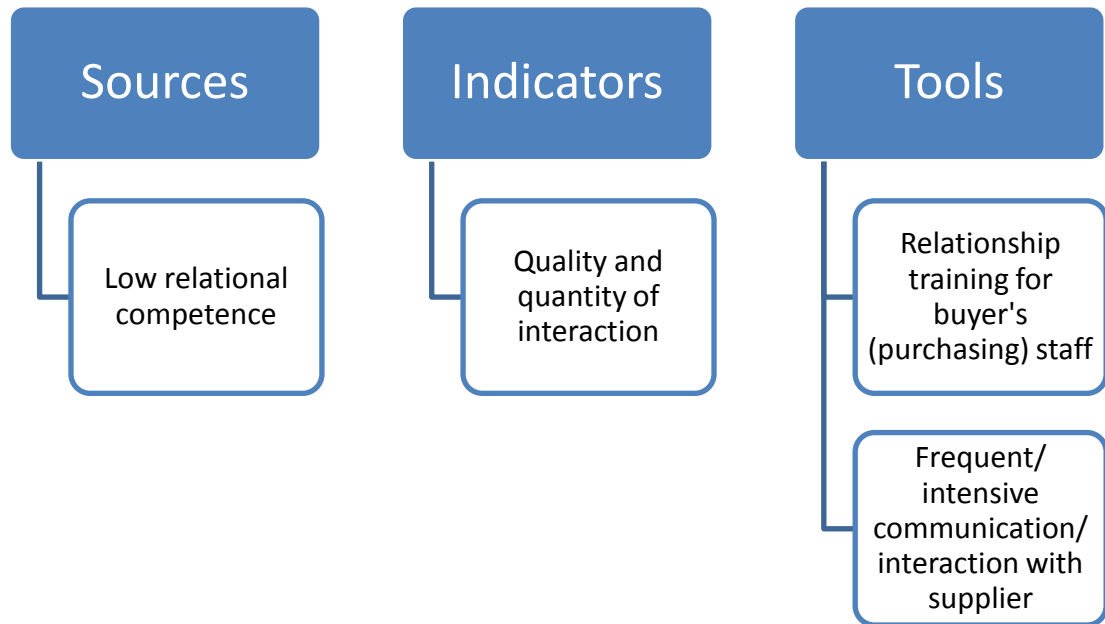
In correspondence to the found codes for the sources, the identified indicators also deal with supplier independence. Turnover share is seen as indicator for financial dependence, whereas the patent/ knowledge distribution between the supplier and buyer indicates the supplier's intellectual (in-) dependence. Last but not least, the property distribution of the production facilities is a sign for the supplier's material (in-) dependence.

With respect to the tools for dealing with strategic supply risk, four codes were developed which correlate closely to the codes for the sources and indicators. Generally, all the codes deal with how buyers can increase the supplier's dependence on their resources. This could for example be done through obtaining the patent rights or increasing the turnover share.

The next theory, whose applicability to strategic supply risk is tested, is the relational view. For doing so, the transcriptions were coded utilizing the following codes.



Figure 9 – Deduced codes for the relational view



The main focus of the codes deduced from the relational view is the relational competence. Low relational competence of the buyer and/ or the supplier is thought to be the major source of strategic supply risk following the relational view. As argued, if neither the buyer nor supplier is endowed with sufficient relational competence the relationship is unlikely to flourish making preferred customer status for the buyer rather improbable due to the presumed low attractiveness for the supplier.

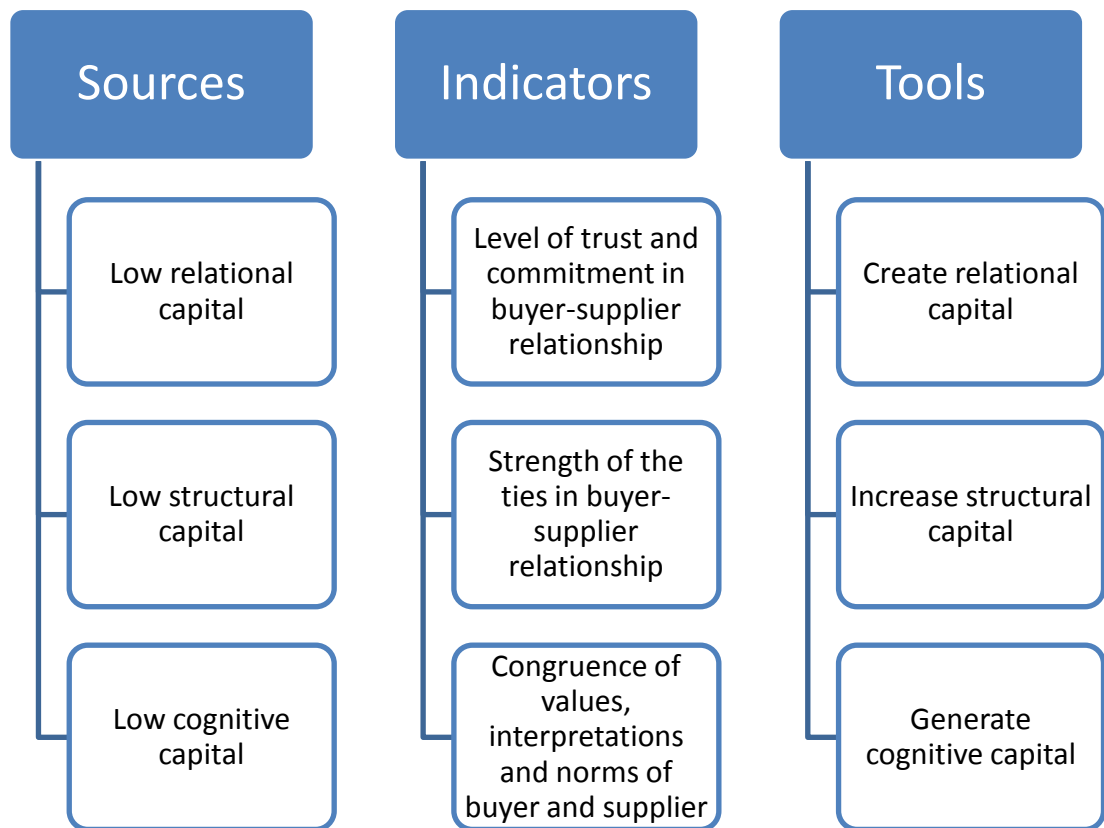
Regarding the indicators one could be identified: the quality and the quantity of the interaction between the supplier and the buyer. At first, the idea was to create two separate indicators, one for the quality and one for the quantity of the interaction. However, neither of these indicators would have been perfect on its own since a high-quality talk every other year or low-quality communication every other week is unlikely to indicate the relational competence and thus strategic supply risk. Therefore, communication quality and the quantity were integrated into one indicator.

Since low relational competence was identified as code for the sources an increase in relational competence should have a positive effect on the buyer's strategic supply risk. Hence, relationship training was chosen as code. Moreover, it appears plausible

that frequent, intensive communication of high quality can ameliorate the buyer-supplier relationship and improve the relational competence – simply following a ‘learning-by-doing’ logic.

With respect to social capital theory the applied coding scheme looks as follows.

Figure 10 – Deduced codes for the social capital theory



Clearly, the deduced codes are organized along the three dimensions of social capital: relational, structural and cognitive capital. As explained, it is argued that social capital can decrease strategic supply risk.

Therefore, three codes for the sources were developed, one for each social capital dimension. The idea is that due to the interrelatedness of the three dimensions, it is likely that a relationship scoring low on one dimension also lacks the other two dimensions of social capital. Thus, for each dimension a separate code was created

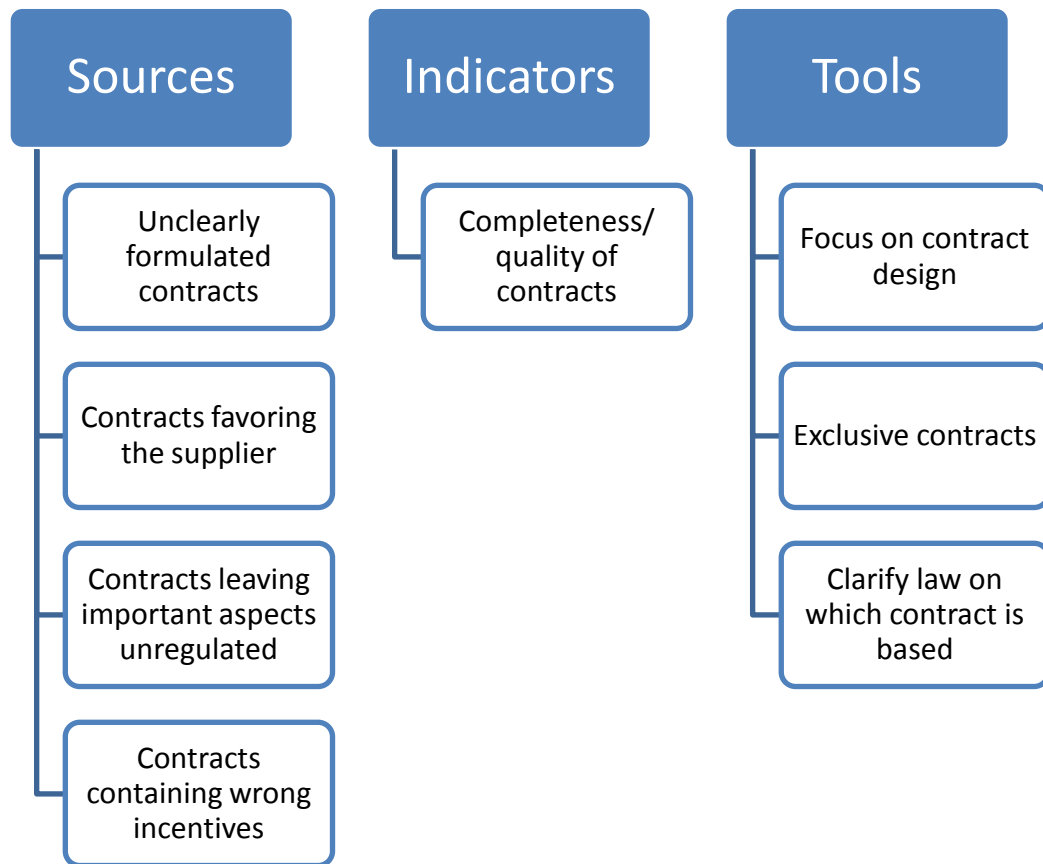
rather than just building one code labeled 'low level of social capital'. The three social capital dimensions are also reflected in the indicators.

Since trust and commitment are the main ingredients of relational social capital, the level of trust and commitment in the buyer-supplier relationship should be a good indicator for strategic supply risk according to social capital theory. In contrast, structural capital refers to the strength of the relationship ties. Therefore, strong/close ties among the supplier and the buyer are thought to be a good indicator of low strategic supply risk. Last but not least, the degree of goal, value and interpretation congruence between buyer and supplier supposedly indicates the level of cognitive capital and therefore the level of strategic supply risk.

Also for the tools, three codes were created. Since low relational capital is seen as source of strategic supply risk, generating relational capital, for instance through trust building measures, is supposed to decrease strategic supply risk. The same holds true for the other two tool codes. Structural capital could for instance be created by intensifying the communication with the supplier, whereas cognitive capital could for example be augmented via matching the strategies and goals of buyer and supplier.

The last theory, whose applicability to strategic supply risk was examined, is the principal-agent theory.

Figure 11 – Deduced codes for the principal-agent theory



The codes mainly revolve around the core of agency theory: contracts and contract design. The developed codes for the sources try to cover different ways of ill-formulated contracts. Overall, four main types could be identified: contracts favoring the supplier, contracts leaving important aspect unregulated, contracts containing wrong incentives and unclearly formulated contracts.

As indicator the completeness/ quality of the contracts could be identified. The assumption is the greater the quality of the contracts, the lower the possibility that they are ill-formulated from the buyer's point of view. Assessing the quality is usually the task of the legal department/ legal advice partner of the buyer. The higher the percentage of contracts passing the quality test is, the higher is the completeness of the contracts and with it presumably the chance of being a preferred customer.

Dealing with strategic supply risk according to agency theory also focuses on the contract. Contract design is a rather broad term, trying to respond to more or less all

of the identified sources. As outlined, a special focus should be put on contract specificity for this is thought to decrease opportunism and thus strategic supply risk. Exclusive contracts represent a special case for they intend to assure preferred customer status ‘de jure’ – a constellation arguably not necessarily based on voluntariness or customer attractiveness. Finally, the last code for the tools is to clarify the law which the contract is based on. This seems to be especially important if the buyer and the supplier are located in regions in which different economic laws apply.

Subsequent to establishing the deductive coding framework, the transcriptions were coded. The results are presented in the following chapter.

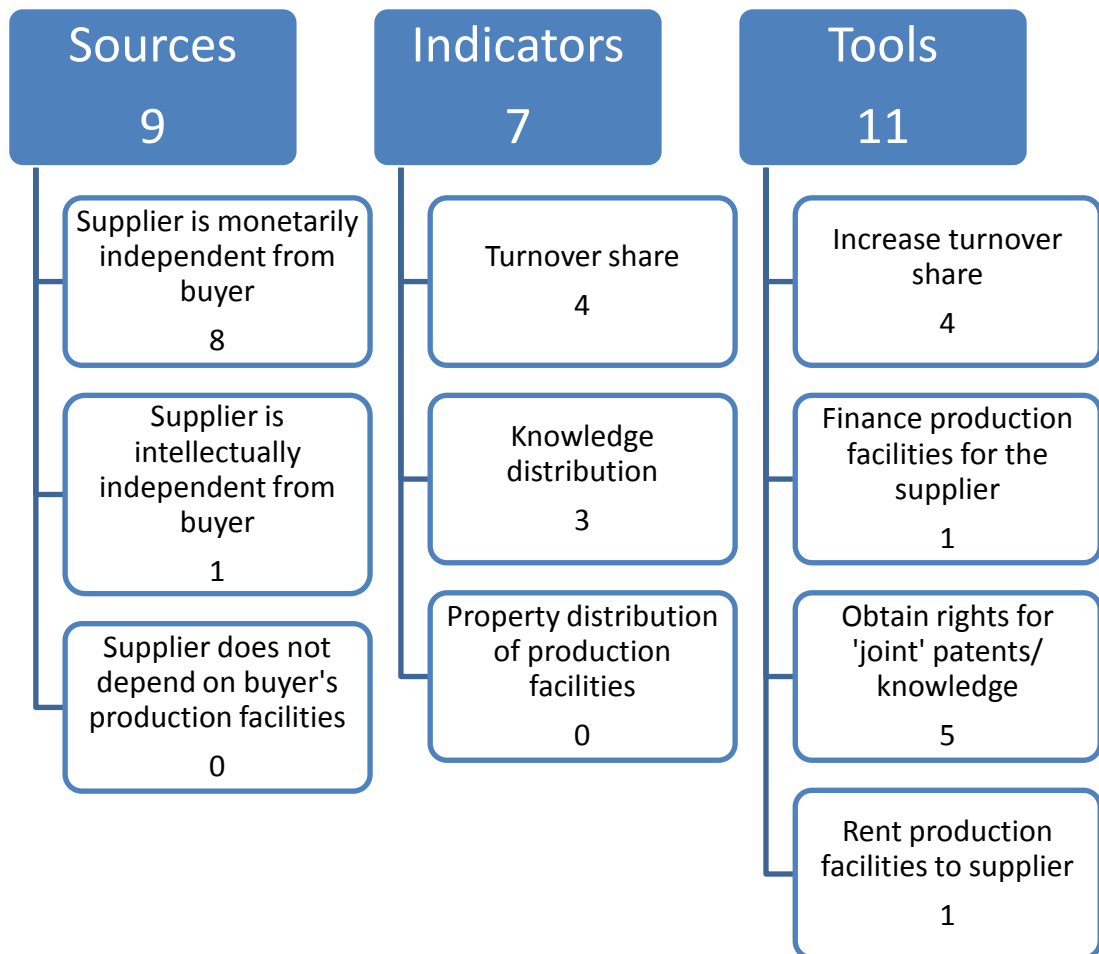
## **5 Deductive and inductive coding results**

### ***5.1 Deductive coding***

#### ***5.1.1 Resource dependence theory: Strategic supply risk due to low monetary dependence of supplier***

The goal of the deductive coding was to explore which theory applies best to strategic supply risk. Therefore codes were created for each of the three theories put to the test. Depending on how often each code appeared and how often codes of a respective theory appeared in total, inferences about the applicability can be made. The first theory to be discussed is the resource dependence theory.

Figure 12 – Deductive coding results for the resource dependence theory



The chart shows that from the ten identified codes, eight appeared in the data. Moreover, the distribution of appearances across the sources, indicators and tools is rather equal. Regarding the sources the monetary independence clearly stands out. With supplier's intellectual independence mentioned one time<sup>224</sup> and supplier's independence from buyer's production facilities not mentioned at all, the eight appearances of supplier's monetary independence indicate that this is the major source of strategic supply risk according to the resource dependence theory. Monetary independence was exclusively seen as the supplier not depending on the buyer's purchasing volume.<sup>225</sup> Regarding intellectual independence the fear was expressed that the supplier could start working with a competitor for it does not

<sup>224</sup> „Also bei uns ist das eher, dass die uns die Patente wegschnappen.“

<sup>225</sup> „Ganz einfach, wenn wir zum Beispiel bei dem nur ein Prozent die Hebelwirkung inne hatten, sind also unter einem Prozent Umsatz von dem, dann sind wir nie ein wichtiger Kunde, dann sind sie immer benachteiligt in so einer Partnerschaft.“

depend on the know-how of the initial purchasing company anymore.<sup>226</sup> By contrast, the result of the indicators is slightly more balanced.

Again, the code dealing with production facilities did not appear in the data. Instead, the distribution of know-how between the supplier and the buyer appears to be a better indicator for strategic supply risk. The index looked at for evaluating the knowledge distribution between buyer and supplier is the patent distribution.<sup>227</sup> Moreover, it was found that it is indeed the turnover share on which buyers focus most according to resource dependence theory. Overall, the indicator turnover share was found four times in the data.<sup>228</sup> The most appearances, however, relate to the codes created for the tools.

All in all, the four codes appeared eleven times in the data. Renting production facilities to the supplier<sup>229</sup> and financing production facilities for the supplier<sup>230</sup> were both found once in the data. In contrast, increasing the turnover share was mentioned four times. The idea is that by increasing the turnover share the buyer can increase the supplier's dependence on the buyer making preferential treatment more likely.<sup>231</sup> Obtaining the rights for 'joint' patents seems to be the most promising approach for fighting strategic supply risk according to the resource dependence perspective. With five appearances, this code was the most frequently mentioned code related to tools. It was argued that if there is no joint patent development, then buyers should be restrictive with sharing know-how through only sharing with but not handing over a valuable resource to the supplier.<sup>232</sup>

In conclusion, eight of the ten developed codes were found in the data. On average, each code appeared about three times in the data. It can be deduced that the resource

---

<sup>226</sup> „Also wir trennen dann auch mal eine ganze Entwicklungsabteilung, damit die dann nicht mit dem Konkurrenten arbeiten.“

<sup>227</sup> „Wir schauen [...] ob der Lieferant, ich sage jetzt mal so wie bei euch, von Anfang an die Schutzrechte oder Patentrechte an uns abtritt. [...] Also Patentabtretung oder gemeinsame Patente als Kennzahl.“

<sup>228</sup> „Wir gucken da aber auch ob wir tatsächlich der Größte sind, bei unserem Lieferanten oder ob das unserer Wettbewerber ist.“

<sup>229</sup> „Wir übernehmen die Maschinen.“

<sup>230</sup> „Also was wir zum Beispiel machen ist, dass wir Lieferanten gewisse Maschinenausstattungen finanzieren, welche er dann über Folgeaufträge abschreiben kann.“

<sup>231</sup> „Ja also Volumenerhöhung, also dass sie attraktiver werden, indem sie mit mehr Umsatz winken.“ „Sie müssen dann mehr Umsatz machen. Ideal liegt der bei fünf bis zehn Prozent.“

<sup>232</sup> „Wir sind da restriktiv Know-How rauszugeben.“

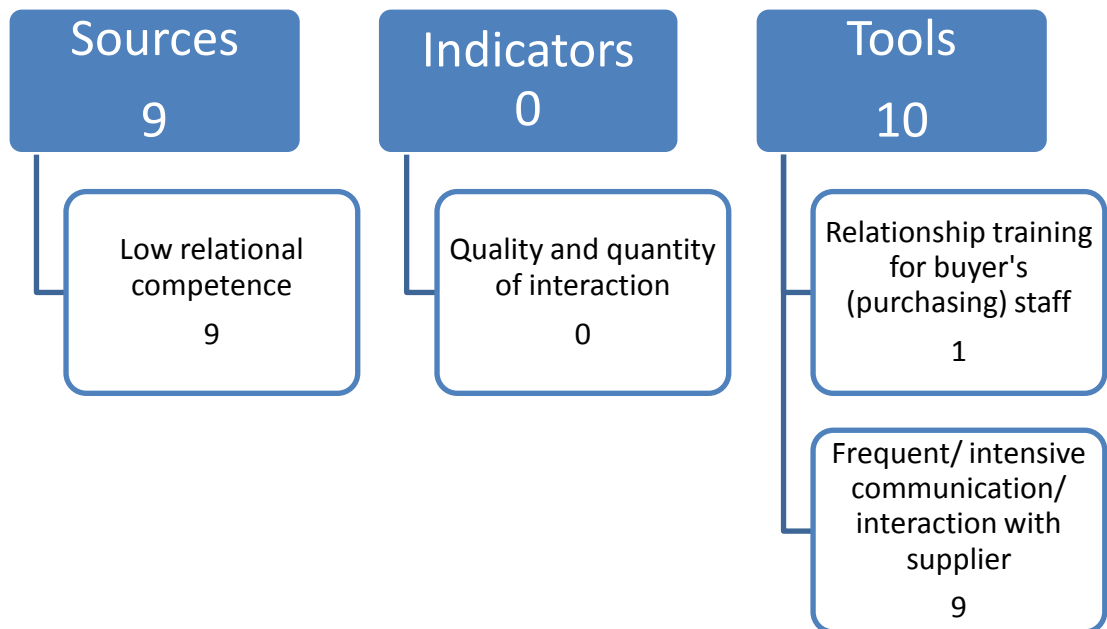
„Wenn der Lieferant [...] Patentrechte an uns abtritt, dann kriegt er dafür Geld, das ist ganz klar. Aber dann haben wir natürlich einen strategischen Vorteil.“

dependence may indeed provide a good basis for the further development of a strategic supply risk theory. Especially regarding the sources, the results are clear-monetary independence of the supplier appears to cause strategic supply risk. The codes found for the indicators and the tools strengthen this claim. Following resource dependence theory, dealing with strategic supply risk seems to be done best by increasing one's turnover share with the respective supplier and by being restrictive on giving out know-how.

*5.1.2 Communication and interaction as keys for dealing with strategic supply risk according to the relational view*

The second theory put to the test with deductive coding was the relational view. Below the results of the analysis can be seen.

Figure 13 – Deductive coding results for the relational view



Only four codes were looked for in the data which, remarkably, were found nineteen times in the data that is to say about five times on average per code. Admittedly, with the only identified indicator code not found at all, the distribution is heavily skewed.



The identified code for the sources was found nine times. The logic behind low relational competence is manifold since relational competence is many-faceted. Examples of low relational competence reach from unfair treatment<sup>233</sup> through disregard of the supplier's intellectual property<sup>234</sup> to personal incompatibilities<sup>235</sup>. Moreover, only the buyer's relational competence seems to matter. Hence, it appears to be the buyer that needs to work on the relationship and needs to have sufficient relational competence for receiving preferential treatment. This is also in line with the argumentation that buyers have to be attractive for supplier in order to gain preferred customer status.<sup>236</sup>

Along with the codes for the tools there was one code which was found nine times in the data. Frequent/ intensive communication/ interaction with the supplier appears to be the key for dealing with strategic supply risk according to the relational view. The analysis revealed that annual (evaluation) talks with the supplier's management<sup>237</sup> and strategic discussions with the supplier seem to be promising tools for intensifying the interaction.<sup>238</sup> Moreover, reverse ratings and performance evaluations seem to be useful, too.<sup>239</sup> By contrast, relationship training appears to be a less effective tool for it was mentioned only once.<sup>240</sup>

---

<sup>233</sup> „Man hat sie [die Lieferanten] auch nicht fair behandelt, quasi auf sie eingedroschen. Da gab es dann wirklich sehr häufig den Fall, dass es also hieß, für Firma X arbeiten wir nicht mehr.“

„Die sagen also, wenn wir also sehen, dass ein Bauunternehmen fair mit uns umgehen möchte, dann sind wir auch wieder bereit uns mehr anzustrengen.“

<sup>234</sup> „Dann nehmen wir natürlich sein geistiges Eigentum und verschicken das an alle und sagen betreibt uns das allemal. Und das ist natürlich der größte Fehler, den man machen kann. Das macht man nur einmal und dann ist man weg. Dann hat man seinen Ruf verloren.“

<sup>235</sup> „Also, dass der Einkäufer jetzt wirklich nicht mit dem Verkäufer absolut nicht kann, weil die sich sowieso so unsympathisch sind, da geht dann das Geschäft auch nicht.“

<sup>236</sup> See e.g. Moody (1992), p. 52; Ellegaard (2003), p. 346; Harris et al. (2003), p. 9; Mortensen et al. (2008), p. 799; Hald et al. (2009), p. 960.

<sup>237</sup> „Also wir nehmen Jahresgespräche“

„Also wir haben gesagt, bei unseren Top25-Lieferanten treffen wir einmal im Jahr das Topmanagement.“

<sup>238</sup> „Ich würde auch das Thema Kommunikation sehr groß schreiben, vor allem die Frage wo geht die Entwicklung hin, was haben die in Zukunft geplant, also strategisch.“

<sup>239</sup> „Also Reverse Rating halte ich generell nicht für schlecht. Um die Zusammenarbeit zu verbessern, ist es sicherlich ein gutes Element. Und wenn sie so wollen, verbesserte Zusammenarbeit reduziert natürlich auch gewisse Risiken.“

„Wir machen zum Beispiel mit allen wichtigen Lieferanten ein Jahresgespräch. Also jetzt nicht nur freiwillig, also ich habe denen eine Checkliste von 5 Seiten gemacht, die die durchgehen müssen. Dann bereiten die sich vor, und wir nehmen alle wichtigen Sachen raus, die Lieferantenbewertung, die Lieferantenentwicklung.“

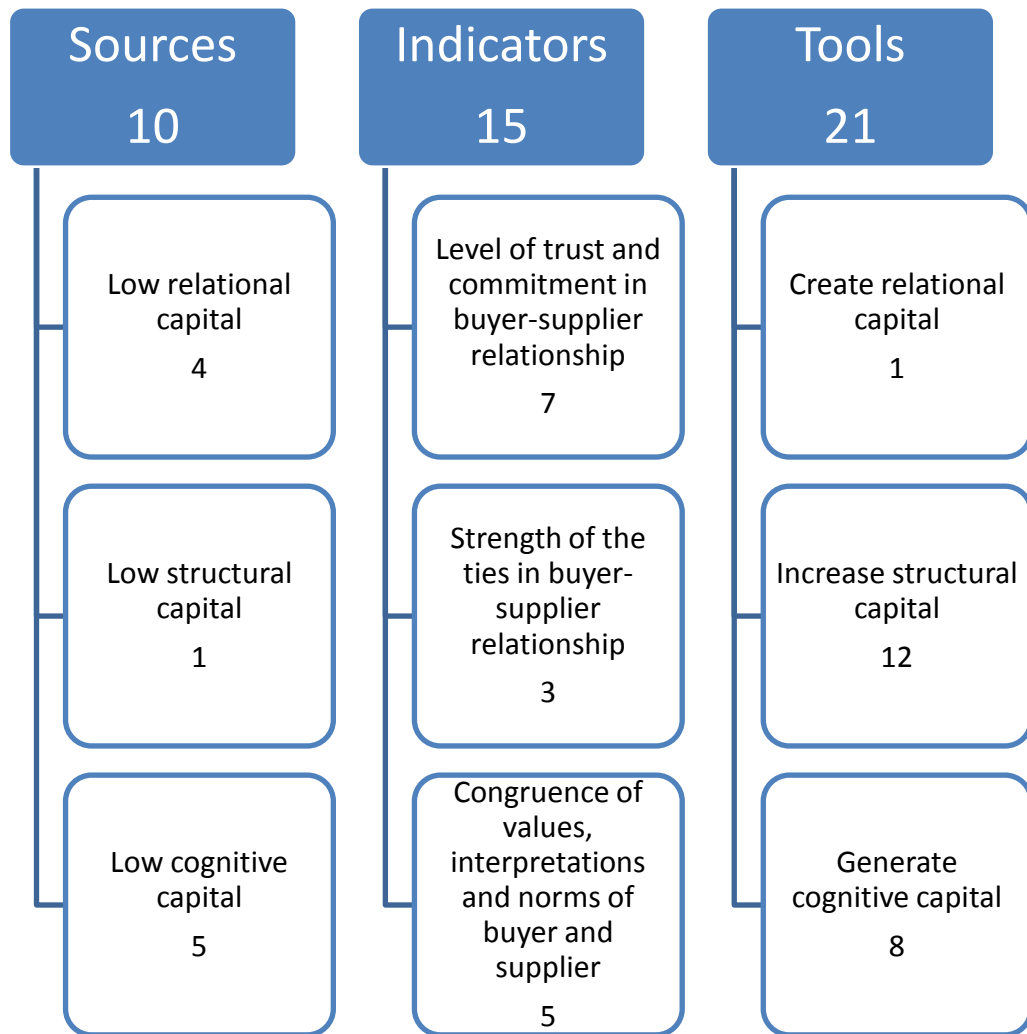
<sup>240</sup> „Ein weiterer Approach, den wir haben ist ein internes Schulungskonzept für unsere Einkaufsleiter, also für alle Einkaufsmanager. Da haben wir eine intensive Schulungsform über drei Wochen im Jahr, über 30 Leute.“

Summing up, the results suggest that the relational view captures at least parts of strategic supply risk. Low relational competence of the buyer seems to be an important source of strategic supply risk since the code appeared nine times in the data. According to the relational view, the most effective tool for handling strategic supply risk would be to intensify the communication with the supplier. This code was also mentioned nine times. With no indicators found, relationship trainings represent yet another, albeit not so strong, tool for dealing with strategic supply risk.

### *5.1.3 Counteracting strategic supply risk with structural social capital*

Social capital theory was the third theory whose applicability to strategic supply risk was scrutinized. Below the coding results are presented.

Figure 14 – Deductive coding results for the social capital theory



With a total of forty-six occurrences social capital theory is the theory with the most occurrences. Moreover, it is the only theory of which all deduced codes appeared in the data. Generally speaking, it seems that social capital theory is especially valid for designing tools to counteract strategic supply risk. Nevertheless, with ten respectively fifteen appearances in the data, social capital also appears to matter for identifying sources and indicators of strategic supply risk.

Regarding the sources, the distribution of appearances is rather equal with only low structural capital standing out. One purchasing manager reported about his close relationship to technical managers from other companies. He saw this as the reason

for his company being able to achieve preferred customer status more easily compared to other buyers which could not draw on close ties to the supplier.<sup>241</sup>

Compared to structural capital, relational and cognitive capital seem to play a more important role as sources of strategic supply risk. Relational capital was found four times in the data. It was repeatedly argued that the absence of trust and commitment, but also of fair treatment, represents a major source of strategic supply risk.<sup>242</sup> Also, the claim was made that lawsuits constitute the epitome of low relational capital.<sup>243</sup>

With five appearances, low cognitive social capital can be considered the most important source of strategic supply risk according to social capital theory. The analysis showed that there seem to be two dimensions of cognitive capital. On the one hand, there is the corporate dimension of cognitive capital that is to say the organizations' goals, values and interpretations. Incompatible goals and interpretation can for instance result from size differences between buyer and supplier<sup>244</sup> and varying importance of innovation<sup>245</sup>. On the other hand, there seems to be a personal dimension of cognitive capital which refers to the congruence of values and interpretations among the individual employees of the buyer and the supplier. If for example the sales agent and the purchasing manager do not get along preferred customer status is supposedly hard to achieve.<sup>246</sup> This situation has been

---

<sup>241</sup> „Zum Beispiel kenne ich natürlich viele, auch weil ich von der Technik herkommen, sehr viele technische Ansprechpartner unserer Lieferanten, die im Laufe der Jahre natürlich auch gewachsen sind in der Hierarchie. Da haben wir dann natürlich einen ganz anderen Hebel als unser Konkurrent dann zu dem.“

<sup>242</sup> „Man hat sie auch nicht fair behandelt, quasi auf sie eingedroschen, auch bei der Bezahlung hinterher, dass man sich nicht vertragskonform verhalten hat. Das hat dazu geführt, dass viele Nachunternehmer letztlich ins Aus gefahren wurden. Da gab es dann wirklich sehr häufig den Fall, dass es also hieß, für [Firma X] arbeiten wir nicht mehr.“

„Also ich unterstelle mal, am meisten gelitten hat das unter der inflationären Verwendung, weil genau in den Zeiten haben sich alle als strategische Partner bezeichnet, haben es aber nie gelebt. Echte strategische Partnerschaft, da halte ich sehr viel davon. Es gibt halt viele, die diesen Begriff als Deckmantel verwenden, aber dann an ihrem Hebel greifen, wenn er gerade ein Stück länger ist.“

<sup>243</sup> „Bei uns ist das so, klar haben wir auch mal Rechtsstreitigkeiten, dass...aber eigentlich egal wie das ausgeht, ist für uns die Nachhaltigkeit gestört.“

<sup>244</sup> „Wir versuchen natürlich auch ein gewisses Größenverhältnis zu behalten beim Lieferant, welches natürlich sehr wichtig ist. Das heißt der Lieferant, darf nicht zu groß sein. Wenn der jetzt größer ist als wir, ist das natürlich auch ein Problem.“

<sup>245</sup> „Das heißt wir sind auf Innovationen bedacht, und entwickeln auch sehr viele neue Sachen, also wir stecken viel Geld in die Neuentwicklung. Da brauchen wir halt auch Partner, die bereit sind, diese Innovationen mitzugehen.“

<sup>246</sup> „Also, dass der Einkäufer jetzt wirklich nicht mit dem Verkäufer absolut nicht kann, weil die sich sowieso so unsympathisch sind, da geht dann das Geschäft auch nicht.“

„Ja und oft sind es halt echt kleine Dinge, die stören. Also persönliche Sachen sind halt oft da, Sympathie.“

coded as low cognitive capital, for research shows that people sympathize with people with whom they have shared interpretations, values and beliefs.<sup>247</sup>

Also with the indicators, the structural capital related code was the least frequently mentioned one. It was mentioned three times that tie strength can serve as an indicator of strategic supply risk. The reasoning is that decreasing contact frequency can signalize that the supplier is not interested in the buyer (anymore).<sup>248</sup>

As indicator only the corporate dimension of cognitive capital seems to matter. It was claimed that changing strategic behavior and supplier's indifference towards the strategy of the buyer hint at the supplier's general indifference towards the buyer.<sup>249</sup> Thus, strategic supply risk is likely to be high in such situations.

Being found seven times, the best indicator for strategic supply risk following social capital theory is the level of trust and commitment between buyer and supplier. According to the study results, trust and commitment for instance show in the reliability of the supplier<sup>250</sup>, the liability of verbal agreements<sup>251</sup> and the level of the customer service quality<sup>252</sup>.

---

<sup>247</sup> See Milton/Mezei (1966), p. 167.

<sup>248</sup> „Es gibt keine Informationen mehr, wo es früher zum Beispiel noch strategische Quartalsmeetings mit dem Management gegeben hat. Das gibt es alles nicht mehr, also wenn wir da generell Zuverlässigkeit nehmen oder persönlichen Kontakt auch irgendwie, wenn man sich früher noch ein- oder zweimal die Woche gehört hat und ausgetauscht hat, was läuft bei uns, was läuft bei euch. Das geht sicherlich in die Richtung von Indikatoren, die für uns wichtig sind.“

„Je mehr man mit dem Lieferant in Kontakt ist, desto besser kann man ihn auch persönlich einschätzen und weiß auch, wenn irgendetwas nicht passt.“

<sup>249</sup> „Wir machen das zum Beispiel so mit unseren Lieferanten, dass wir unsere Roadmap mit der der Lieferanten abgleichen und wenn sie dort so in die Gegenrichtung geht und es kein Interesse besteht, warum wir eigentlich diese Roadmap haben, obwohl er eigentlich interessiert sein müsste, dann ist das sicherlich ein Indiz dafür, dass er nicht in die Richtung gehen wird. Also was jetzt Roadmaps für Technologie betrifft [...] ist das schon ein kleines Indiz dafür, ob er jetzt in Zukunft noch mit uns gehen will oder nicht.“

„Die Ausrichtung kann sich ändern. Also jetzt der Besitz einer Außenstelle oder eines Familienunternehmens. Sowas sollte man erkennen.“

<sup>250</sup> „Und wie sie schon gesagt haben, wie zuverlässig die sind. Früher habe ich da innerhalb von zwölf Stunden eine Antwort bekommen – Danke, werde mich darum kümmern – oder wie auch immer, und jetzt vergehen Tage zum Beispiel. Oder es ist keiner erreichbar, Mobiltelefone, Urlaubsvertretungen gibt es keine mehr.“

<sup>251</sup> „Auch die klassischen Handwerksbetriebe, von einem Unternehmer geführt, [wo] die Leute so seit 20 Jahren dabei sind, also da kann man telefonisch wirklich eine Vereinbarung treffen, und das hat halt die gleiche Qualität wie ein schriftlicher Vertrag.“

„Wenn man Vertrauen zueinander hat, also von beiden Seiten, dann ist das eigentlich auch eine Geschäftsgrundlage, weil dann gilt das Wort.“

<sup>252</sup> „Der Kundenservice lässt nach, also in allen Bereichen. Wir warten länger auf ihre Angebote, zweitens schnellen die Preise in die Höhe, die hängen bei Lieferterminen und so weiter. [...] Wenn sie

Although low relational capital was mentioned four times as source, and the level of trust and commitment seven times as indicator of strategic supply risk, increasing relational capital, i.e. trust and commitment, was not considered as a strong tool for counteracting strategic supply risk. It was found only once in the data.<sup>253</sup> One explanation for this finding could be that increasing trust and commitment in a relationship can be difficult and laborious and thus is not the preferred course of action.

In contrast, increasing cognitive capital appeared eight times. Mainly, cognitive capital was thought to be increased via strategy alignment and common strategy development with the supplier.<sup>254</sup>

Following social capital theory, buyers should increase the structural capital of the relationship that is to say the tie strength. Although structural capital was only mentioned once as source and thrice as indicator, increasing structural capital appeared twelve times in the data making it the most frequently appearing code of social capital theory. Structural capital was suggested to be increased for example through raising the interconnectedness of buyer and supplier<sup>255</sup> and intensifying the communication with the supplier, especially through annual evaluation talks<sup>256</sup>.

---

dann einen Einkäufer haben, der den Lieferanten gut kennt, der merkt das dann ja auch. Also daran merken wir das dann.“

<sup>253</sup> „Also Reverse Rating halte ich generell nicht für schlecht. Um die Zusammenarbeit zu verbessern, ist es sicherlich ein gutes Element. Und wenn sie so wollen, verbesserte Zusammenarbeit reduziert natürlich auch gewisse Risiken.“

<sup>254</sup> „Also wir bieten Lieferanten auch [...] Roadmapentwicklung [an], also wir sind ja Technologieführer und das wollen wir auch bleiben, und ohne Lieferanten geht das nicht. Also auf dem Materialektor oder wie auch immer. Und da muss es halt schon in die Richtung abgestimmter Roadmap gehen.“

„Also haben wir ein Netzwerk mit den Einkaufsleitern unserer Lieferanten gegründet, wo wir uns austauschen über Themen und wir nutzen das auch als Plattform um unserer Einkaufsstrategie mitzuteilen.“

„Was natürlich auch ein Punkt ist, wenn man dem Lieferanten eine bestimmte Vorschau geben kann. Also allgemein, wie sieht die Entwicklung aus, was haben wir geplant für die Zukunft. Also wird der Umsatz in der Richtung steigen? Wollen wir eine Lieferantenkonsolidierung machen und du bist einer von unseren bevorzugten Lieferanten und wir wollen auch in Zukunft mit dir zusammenarbeiten, also langfristige Vorschau im Sinne von Strategien oder auch kurzfristige Vorschau im Sinne von Mengenbedarf und so weiter? Weil das natürlich schon hilft, unseren Bindungspartner darauf einzustellen.“

<sup>255</sup> „Da hat man sage ich mal wieder eine gute strategische Fahne, das heißt, wenn da wichtiges Material ist, hat bei uns der Familienrat gesagt, okay, da will ich irgendeinen aus dem Kreise in den Aufsichts- oder Verwaltungsrat packen.“

<sup>256</sup> „Wir machen zum Beispiel mit allen wichtigen Lieferanten ein Jahresgespräch.“

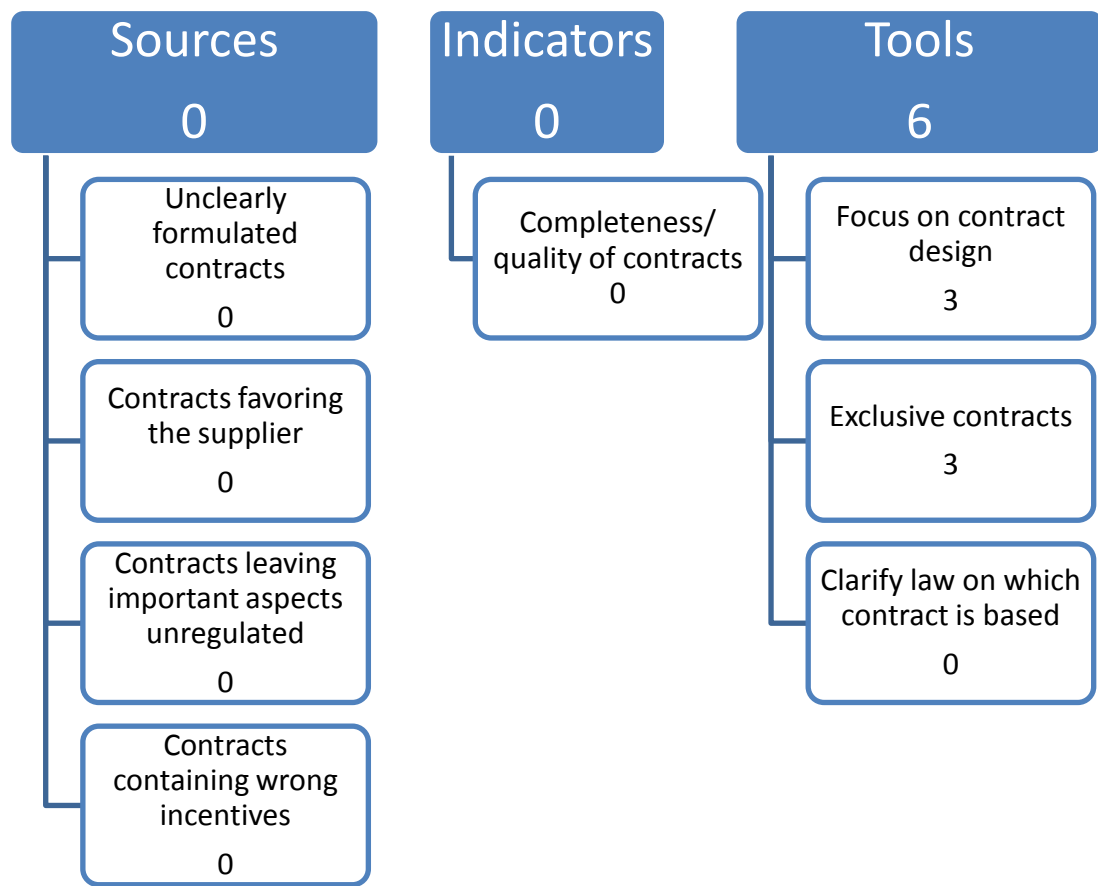
„Also wir haben gesagt, bei unseren Top25-Lieferanten treffen wir einmal im Jahr das Topmanagement.“

In conclusion, the coding results of social capital theory are rather balanced. Every code appears in the data and no social capital dimension prevails clearly. The results suggest that strategic supply risk mainly originates from low relational capital. Hence, assessing the strategic supply risk level can best be done by looking at the level of trust and commitment in the buyer-supplier relationship. Moreover, based on social capital theory buyers should opt for increasing the structural capital in order to lower their strategic supply risk.

5.1.4 *The importance of contract design for managing strategic supply risk following principal-agent theory*

Last but not least, the results for the principal-agent theory are presented.

Figure 15 – Deductive coding results for the principal-agent theory



„Das wäre vielleicht eine Möglichkeit oder tatsächlich eben aktiv auf die Ebene des Vertriebs oder des höheren Managements zuzugehen und einfach sich bemerkbar zu machen.“

All in all, the eight codes appeared six times in the data. In fact, only two of the eight codes were found at all, with each of them appearing three times. Surprisingly, focusing on contract design in order to deal with strategic supply risk was mentioned three times whereas ill-formulated contracts of any kind do not seem to cause strategic supply risk. Nor does the quality/ completeness of contracts appear to indicate strategic supply risk. Moreover, the law on which the contract is based does not play a role in handling strategic supply risk either.

The logic behind focusing on contract design is that the buyer seeks to close outline agreements with the supplier in which all aspects of the partnership are clearly laid out.<sup>257</sup> Admittedly, this may not increase customer attractiveness. Still, with three appearances, focusing on contract design appears to be an effective method for counteracting strategic supply risk following principal-agent theory. Exclusive contracts represent a special case of contract design. The idea is once more that buyers should opt to assure preferential treatment through contracts that is to say ‘by law’.<sup>258</sup> Again, such a tool does not necessarily counteract strategic supply risk by increasing the buyer’s attractiveness. Instead, exclusive contracts aim at making non-preferential treatment ‘illegal’ for the contract guarantees the buyer a preferred customer status.

In conclusion, the principal-agent theory seems to apply to the phenomenon of strategic supply risk only in a limited way. With no indicators found and none of the created codes for the sources present in the data, it appears that principal-agent theory can only be relied on for dealing with strategic supply risk and not for identifying sources and finding indicators.

---

<sup>257</sup> „Man kann natürlich auch Rahmenverträge schließen, in denen man genau regelt wie man zusammenarbeitet.“

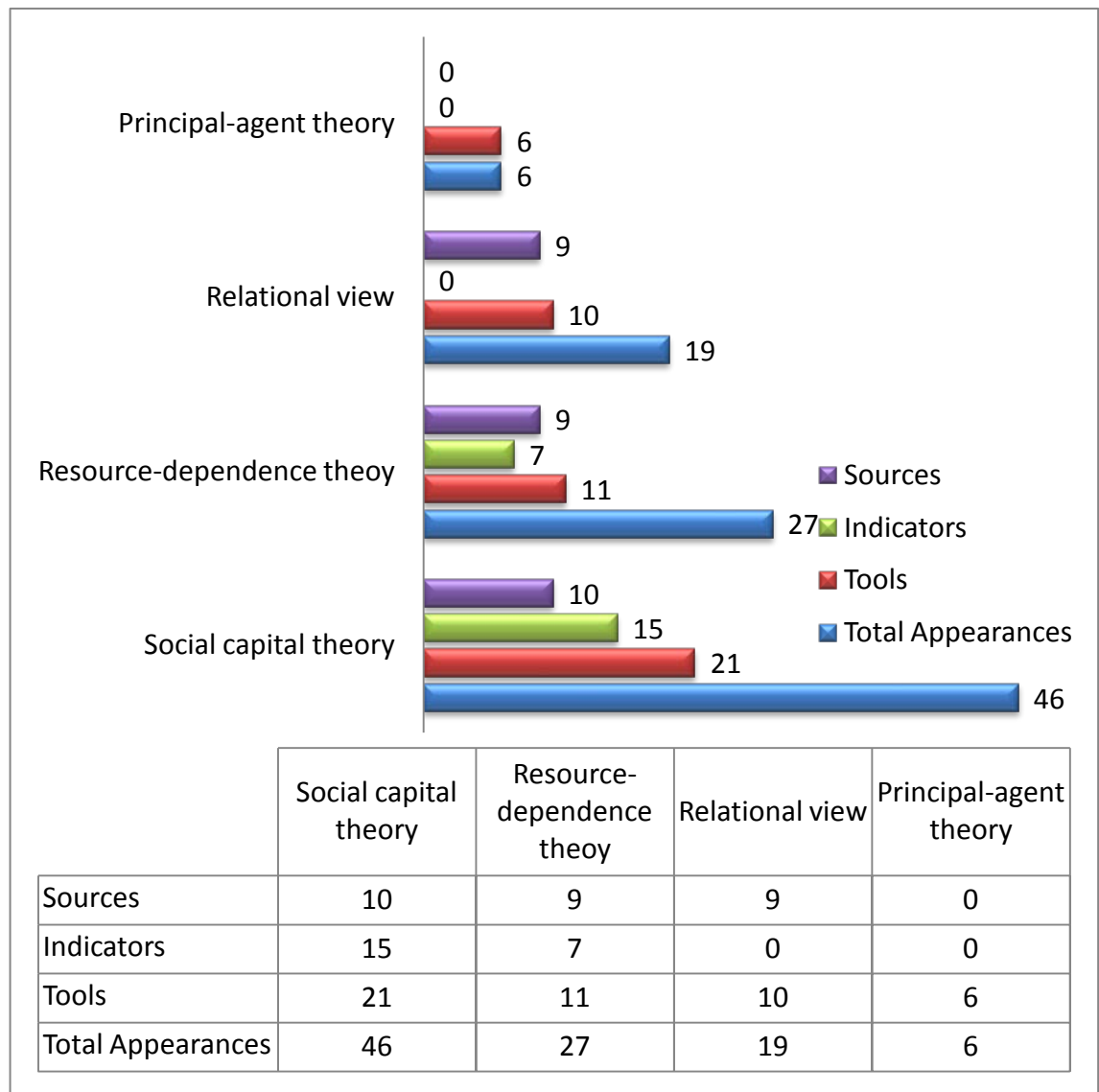
<sup>258</sup> „Wir versuchen Exklusivvereinbarungen zu treffen.“



5.1.5 Comparing the results: Social capital theory captures strategic supply risk best

The last step of the deductive analysis is to assess which theory applies best to strategic supply risk and could provide a vantage point for developing a strategic supply risk theory. The overall deductive coding results are visualized underneath.

Figure 16 – Overall deductive coding results



At first glance, the result is clear: social capital theory captures strategic supply risk best for it has by far the highest overall number of appearances. However, for understanding the results in their entirety a second, thorough look is necessary. First

of all, the overall results are analyzed separately for the sources, indicators and tools. Subsequently, an overall assessment for each theory is presented culminating in choosing the theory which captures the phenomenon of strategic supply risk best.

The only theory which seems to be of no help in identifying strategic supply risk sources is the principal-agent theory. None of the four codes appeared in the data. The other three theories' codes were found nine, respectively ten times. Thus, it cannot be reasonably determined which theory captures the sources best. The results indicate that strategic supply risk derives mainly from low cognitive capital (social capital theory; five appearances), supplier's monetary independence from the buyer (resource dependence theory; eight appearances) and low relational competence of the buyer (relational view; nine appearances).

With respect to the indicators the picture is an entirely different one. Here, social capital theory appears to provide overall the most accurate indicators of strategic supply risk. Neither principal-agent theory nor the relational view appeared in the data. Resource dependence theory in contrast was mentioned seven times, which indeed is a considerable amount. However, this number is clearly topped by the fifteen appearances of social capital theory. Hence, social capital theory seems to be the most appropriate theory for assessing the degree of strategic supply risk and for monitoring it. More precisely, with seven appearances it is the level of trust and commitment in the buyer-supplier relationship which seems to be the best indicator of strategic supply risk.

Considering the findings for the sources and the indicators, it is surprising that all assessed theories seem to be of assistance in dealing with strategic supply risk. Again, social capital theory is by the far the theory most frequently found in the data. Nevertheless, the results for principal-agent theory (six appearances), the relational view (ten appearances) and resource dependence theory (eleven appearances) hint at the fact that social capital theory alone does not tell the whole story about managing strategic supply risk. Striking is the fact that the two tools found most often both relate to intensifying the communication and interaction with the supplier. On the one hand, frequent/intensive communication/interaction with the supplier (relational view) appeared nine times in the data. On the other hand, increasing structural capital (social capital theory) which is essentially about building strong ties to the supplier

for instance via intensified communication/interaction, was mentioned twelve times in the data. This is also the highest number of appearances a single code achieved in the study. Therefore, only one conclusion can be drawn: the most effective tool for dealing with strategic supply risk is frequent and thorough communication with the supplier. Strong ties seem to represent the best antidote against strategic supply risk. This finding is also congruent with extant research about the advantages of strong ties and their connection to preferred treatment.<sup>259</sup>

The goal of the second part of the overall analysis is to determine which theory appears to apply best to strategic supply risk as a whole. And indeed the first glance inference turns out to be correct: social capital theory seems to be the most applicable theory. Based on the number of overall appearances principal-agent theory is the least applicable theory, followed by the relational view and resource dependence theory. Not only did social capital theory appear nearly twice as much as the second most frequently appearing theory, it also had the highest number of appearances in each category (sources, indicators, tools). This is not to say that the other theories and with them the codes which appeared in the data are completely invalid. The results simply suggest that as a whole social capital theory captures the nature of strategic supply risk best and should thus serve as vantage point for developing a strategic supply risk theory.

## **5.2 Inductive coding**

### *5.2.1 The supplier as the main source of strategic supply risk*

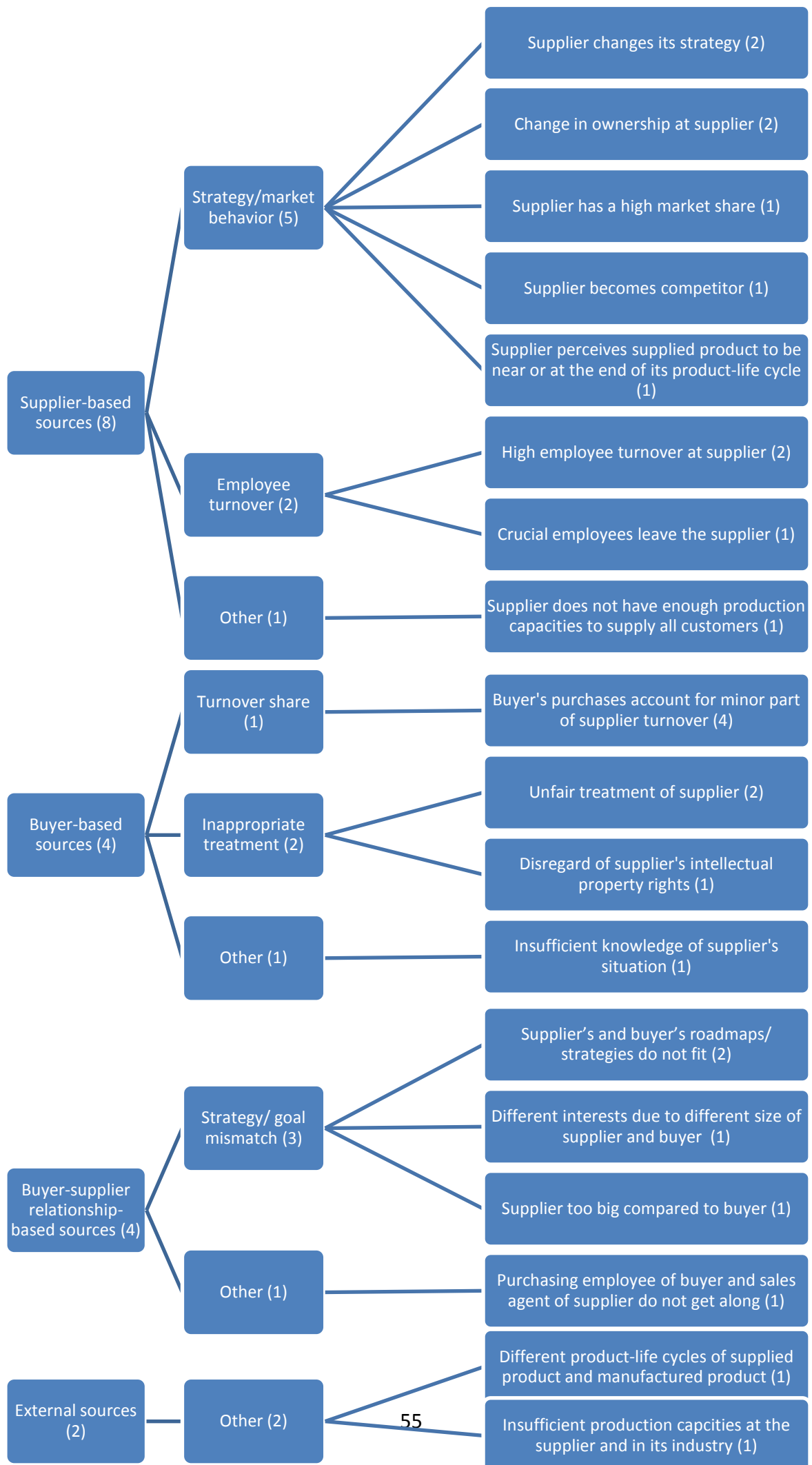
In this chapter the inductive coding results are presented. Since a supply risk management system starts out with identifying the risk sources, first of all the results for the strategic supply risk sources will be discussed. After the coding, the found sources were grouped into thematic categories and subcategories. The following table summarizes the results of this process. On the left there are the identified categories which are again split up into subcategories. On the right side of the figure every code found in the data is listed. The number in brackets behind the code names denotes how often the code appeared in the data, whereas the number in brackets

---

<sup>259</sup> Coleman (1988), p. 99; Uzzi (1997), p. 43; Portes (1998), p. 4.

behind the (sub-) category names indicate how many codes fall into the respective (sub-) category.

Figure 17 – Inductive coding results: Strategic supply risk sources



Overall, the purchasing managers identified eighteen different strategic supply risk sources appearing altogether twenty-six times in the data. Subsequent to the coding, the aim was to group the codes into as few meaningful categories as possible with the intention to classify sources according to their origin (e.g. company versus market) rather than their type (e.g. economic versus emotional). The first idea of applying a simple ‘internal/ external sources’ classification scheme was not satisfying as this would have resulted in sixteen internal and only two external sources. Hence, the internal sources category needed further refinement. With only two players involved, the buyer and the supplier, the two categories ‘supplier-based’ and ‘buyer-based’ suggested itself. Yet, this classification still excluded four sources which neither emanate solely from the buyer nor the supplier but instead result from the interaction of these two. This is the reason why a third category was developed and given the name ‘buyer-supplier relationship-based sources’.

The figure shows that the discussants view the supplier as the main source of strategic supply risk. In total, eight supplier-based sources of strategic supply risk were found. Overall, they appeared eleven times in the data. A closer look at the identified supplier-based codes revealed that many of them revolve around common themes. Five sources, appearing seven times, for instance relate to the strategy/market behavior of the supplier. A change in the supplier’s strategy<sup>260</sup> and market behavior was found to increase the risk of not being a preferred customer. Such a change can be brought about by a change in ownership for example.<sup>261</sup> Moreover, it was argued that if the supplier (unlike the buyer) perceives the supplied product at the end of its life cycle, becoming a preferred customer is close to impossible. Suppliers will not give preferential treatment to buyers of a product which is likely to disappear soon from the supplier’s product portfolio.<sup>262</sup>

Another, albeit not so strong, subcategory which could be identified relates to the employee turnover rate at the supplier. Here the fear expressed was that a change in employees could also result in a change of supplier’s attitude towards the buyer,

---

<sup>260</sup> „Es ist ja nicht immer klar, woran es wirklich liegt. Hat der seine Strategie geändert, oder hat er andere, vielleicht finanzielle, Probleme.“

<sup>261</sup> „Die Ausrichtung kann sich ändern. Also jetzt der Besitz einer Außenstelle oder eines Familienunternehmens.“

<sup>262</sup> „Also hier Produktionszyklus, das kann wirklich ein strategisches Risiko sein, wenn wir nämlich genau in dem alten Produktionszyklus drin sitzen, dann ist das Interesse womöglich nicht mehr so wahnsinnig groß daran, uns als Buyer zu betrachten.“

especially if the preferred customer status is built on functioning inter-personal relationships.<sup>263</sup>

Only one supplier-based code could not be assigned to any of the two subcategories. Surprisingly, insufficient production capacities at the supplier were only mentioned once.<sup>264</sup> Based on the ‘educated guesses’ about strategic supply risk, the suppliers production capacity was expected to appear much more often in the data for in such a situation a supplier really has to decide which buyers are preferred customers i.e. whom to supply. One explanation could be that during capacity shortages it only shows which buyers are preferred customers because the supplier has to make a selection. However, the reason why buyer A is a preferred customer but buyer B is not, might be rooted in other factors. In such a case, capacity shortages do not cause strategic supply risk but simply render it visible.

With eight occurrences in the data, ‘buyer-based source’ are the second most frequently mentioned group of strategic supply risk sources. As the name suggests, these sources emanate from the purchasing company and its behavior. Again, two subcategories could be identified.

The first subcategory deals with the buyer’s share of the supplier’s overall turnover. With four appearances in the data, *buyer’s purchases account for minor part of supplier turnover* is the most frequently mentioned strategic supply risk source. That is why it was decided to create a distinct subcategory for this code. The reasoning is that the smaller the supplier’s monetary dependence on the buyer’s purchases, the less likely the buyer is a preferred customer.<sup>265</sup>

Another category of buyer-based strategic supply risk sources is the inappropriate treatment of the supplier through buyer. An example of unfair treatment<sup>266</sup> is for

---

<sup>263</sup> „Also bei uns kommt es halt auf die Ansprechpartnerin, die Stellung oder wie werden wir betreut letztendlich. Also wenn das ständig wechselt dann wechseln wir vielleicht auch, dann nehmen wir wahrscheinlich langfristig Abstand, dann wechseln wir.“

<sup>264</sup> „Was wäre denn dann eine strategische Risikoquelle? – ,Generell Produktionskapazitäten.“

<sup>265</sup> „Ganz einfach, wenn wir zum Beispiel bei dem nur ein Prozent die Hebelwirkung inne hatten, sind also unter einem Prozent Umsatz von dem, dann sind wir nie ein wichtiger Kunde, dann sind sie immer benachteiligt in so einer Partnerschaft.“

„Ich denke, dass an dieser Stelle auch entscheidend ist, wie viel Umsatz er denn mit mir macht. Also wie wichtig bin ich dem Lieferanten.“

<sup>266</sup> „Man hat sie auch nicht fair behandelt, quasi auf sie eingedroschen, auch bei der Bezahlung hinterher, dass man sich nicht vertragskonform verhalten hat. Das hat dazu geführt, dass viele

instance the disregard of the supplier's intellectual property rights<sup>267</sup>. Last but not least, it was also mentioned once that strategic supply risk can accrue from buyers' insufficient knowledge of the supplier's strategy, situation and ability.<sup>268</sup>

The category 'buyer-supplier relationship-based sources' contains four sources which are neither solely supplier-based nor buyer-based and are not related to external factors, either. Instead, their origin lies in the interaction/ comparison between buyer and supplier. For instance, having a large trans-national corporation as supplier is not detrimental per se. According to the coding results, however, it becomes problematic if the buyer is a small or medium-sized company. The logic is that huge size differences usually entail interest differences, too.<sup>269</sup> Such interest differences can also result from a strategy mismatch between buyer and supplier. Thus, incompatible strategies were seen as another source of strategic supply risk.<sup>270</sup>

The only ungrouped relationship-based source is not found at the corporate but at the personal level. If the personal relationship between the sales agent of the supplier and the purchasing employee of the buyer does not function at all, the buyer will hardly become a preferred customer.<sup>271</sup>

External factors constitute the smallest group of strategic supply risk sources. It was argued that strategic supply risk arises in case of different product-life cycles between supplier and manufactured product inasmuch as suppliers will be reluctant to prefer buyers of products they think will be off the market soon.<sup>272</sup> The other

---

Nachunternehmer letztlich Aus gefahren wurden. Da gab es dann wirklich sehr häufig den Fall, dass es also hieß, für XY [Firmenname wurde verändert] arbeiten wir nicht mehr.“

<sup>267</sup> „Dann geben wir natürlich sein geistiges Eigentum, seine Idee, greifen wir auf und verschicken das an alle und sagen betreibt uns das allemal. Und das ist natürlich der größte Fehler, den man machen kann. Das macht man nur einmal und dann ist man weg. Dann hat man seinen Ruf verloren.“

<sup>268</sup> „Also die Risikoquelle wäre ja dann Nichtkenntnis der Lieferantenfähigkeit, also wenn man nicht Bescheid weiß.“

<sup>269</sup> „Das heißt der Lieferant, darf nicht zu groß sein. Wenn der jetzt größer ist als wir, ist das natürlich auch ein Problem.“

<sup>270</sup> „Wir machen das zum Beispiel so mit unseren Lieferanten, dass wir unsere Roadmap mit der der Lieferanten abgleichen und wenn sie dort so in die Gegenrichtung geht und es kein Interesse besteht, warum wir eigentlich diese Roadmap haben, obwohl er eigentlich interessiert sein müsste, dann ist das sicherlich ein Indiz dafür, dass er nicht in die Richtung gehen wird.“

<sup>271</sup> „Oder oft sind es nur persönliche Empfindlichkeiten. Also, dass der Einkäufer jetzt wirklich nicht mit dem Verkäufer absolut nicht kann, weil die sich sowieso so unsympathisch sind, da geht dann das Geschäft auch nicht.“

<sup>272</sup> „Unser Produktlebenszyklus ist genau zehn plus X Jahre, Halbleiterlebenszyklus ist vielleicht fünf Jahre. Also wenn der heute hoch verfügbar ist am Markt, dann heißt es, der hat vielleicht schon zwei Drittel seinen Lebenszyklus hinter uns. Das heißt in zwei, drei Jahren können wir uns dann nach Alternativen umschauen.“



environment-based strategic supply risk source is capacity constraints in the supplier's industry.<sup>273</sup> As pointed out earlier, such constraints probably do not cause strategic supply risk but simply make it apparent.

In conclusion, the inductive coding revealed that the supplier is seen as the main source of strategic supply risk, followed by the buyer, their relationship and external factors. More precisely, strategic supply risk seems to be caused mainly by four sources. Most importantly, it is the supplier's market behavior and the alteration of it which appears to be the major strategic supply risk source. Another two important themes relate to the buyer: unfair treatment of the supplier and buyer's purchases being too small compared to the supplier's turnover. With external factors apparently playing a minor role, the fourth important source of strategic supply risk are strategy/interest differences between buyer and supplier.

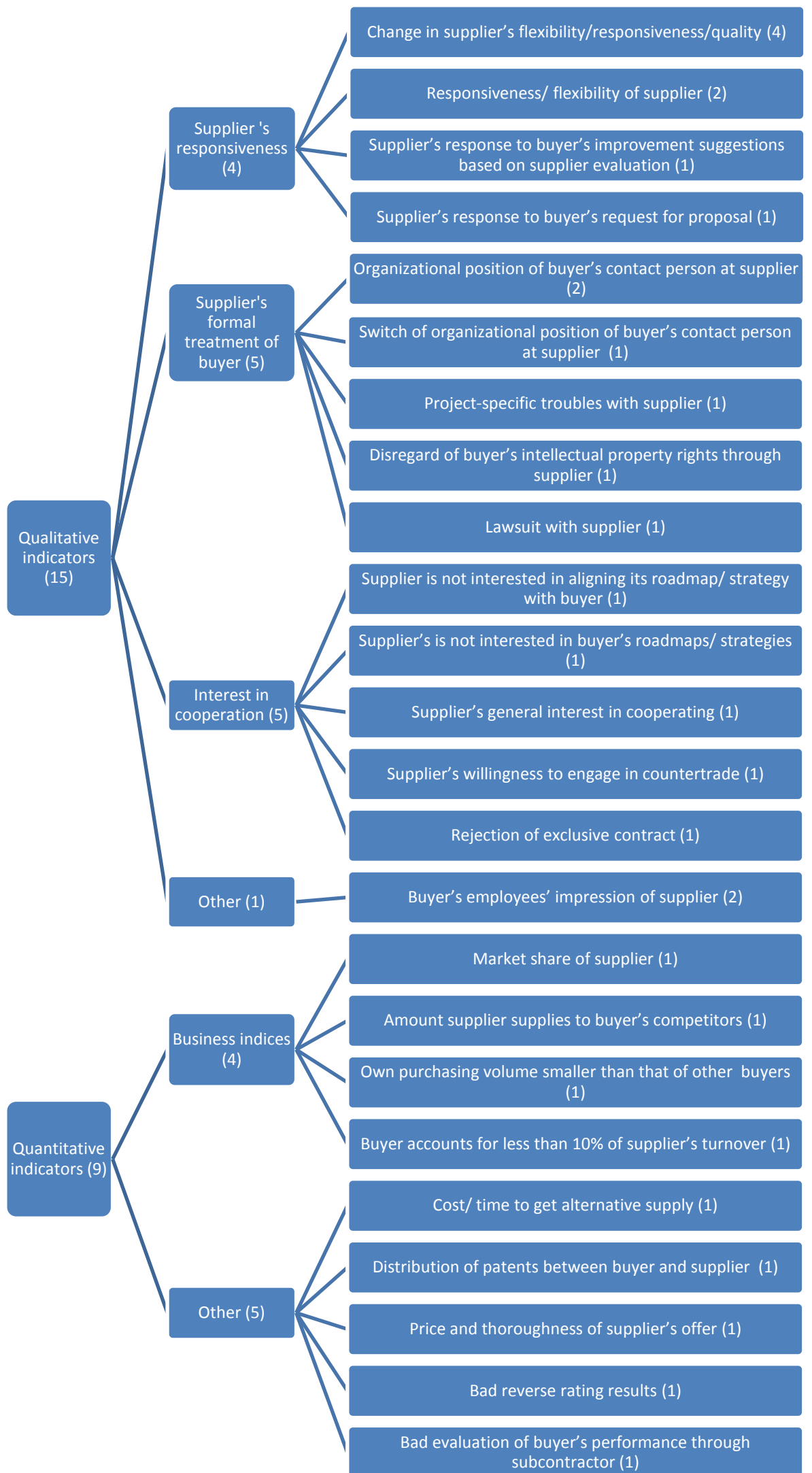
### *5.2.2 Supplier's responsiveness and turnover indices as most important indicators of strategic supply risk*

The second of the inductive analysis consisted of coding for indicators of strategic supply risk. As with the sources, indicators were first of all identified in the data and subsequently grouped into meaningful categories. Again, the number in brackets behind the code names denotes how often the code appeared in the data, whereas the number in brackets behind the (sub-) category names indicate how many codes fall into the respective category.

Figure 18 – Inductive coding results: Indicators of strategic supply risk

---

<sup>273</sup> „Zum Beispiel die Solarindustrie mit dem Thema Rohstoff, also Silicium. Ich glaube, die hatten auch Verträge mit den Maschinenbauern für die Herstellung der Zellen. Als der Boom dann aber so richtig los ging damals, hatten die dann teilweise nicht genug Produktionskapazitäten...Also das könnte eine strategische Risikoquellen sein, wenn es generell nicht genug Produktionskapazitäten auf dem Markt gibt. Also jetzt nicht auf einzelne Lieferanten bezogen“



In total, the analysis revealed twenty-four indicators of strategic supply risk which were found altogether thirty times in the data. The indicators can be assigned to two broad categories. As the name suggests, ‘quantitative indicators’ are indicators which can be measured quantitatively. Most of these indicators have to do with business indices such as turnover or market share. The second category is termed ‘qualitative indicators’. These are indicators which can hardly be measured numerically. Mostly, these indicators are related to (the supplier’s) behavior. By classifying the indicators primarily based on their type (quantitative vs. qualitative) and secondarily regarding their topic (e.g. turnover, cooperation, responsiveness...) the advantages of both approaches are taken into account.

Approximately two thirds of the indicators are of qualitative nature. More precisely, fifteen qualitative indicators appearing altogether twenty-one times were found in the data. They can be classified into four subcategories. With four codes appearing altogether eight times, ‘supplier’s responsiveness’ is the most frequently appearing subcategory. The reasoning that the supplier’s responsiveness is a good indicator for strategic supply risk is based on the assumption that suppliers know very well about the positive impact which responding timely to the buyer’s requests and being flexible in meeting the demands of the buyer has on customer retention. Therefore, deteriorating service quality is regarded as a clear sign that the supplier is not very much interested in retaining the buyer as its customer anymore.<sup>274</sup> Declining supplier responsiveness can show for instance as little or lagged reaction to the buyer’s requests and improvement suggestions, and not meeting the delivery deadline.<sup>275</sup>

The second subcategory ‘supplier’s formal treatment of the buyer’ contains five codes. However, these were only found six times in the data. According to the analysis, the organizational rank of the buyer’s contact person at the supplier shows

---

<sup>274</sup> „Früher habe ich da innerhalb von zwölf Stunden eine Antwort bekommen – Danke, werde mich darum kümmern – oder wie auch immer, und jetzt vergehen Tage zum Beispiel. Oder es ist keiner erreichbar, Mobiltelefone, Urlaubsvertretungen gibt es keine mehr. Es gibt keine Informationen mehr, wo es früher zum Beispiel noch strategische Quartalsmeetings mit dem Management gegeben hat.”  
„Also inwiefern er auf unsere Verhandlungen eingeht, auch bei Weiterentwicklungen. Ob er reagiert auf das, was wir wollen oder nicht.“

<sup>275</sup> „Der Kundenservice lässt nach, also in allen Bereichen. Wir warten länger auf ihre Angebote, zweitens schnellen die Preise in die Höhe, die hängen bei Lieferterminen, [...] Qualitätsprobleme tauchen auf.“

„Wir haben ja auch Lieferantenbewertungen, das sind Maßnahmen, nimmt er die ernst, macht er da was.“

best the importance of the buyer and is thus a good indicator of strategic supply risk.<sup>276</sup> Especially, if the organizational position changes all of a sudden, for example the buyer used to communicate with the sales manager and is now urged to discuss the issues with a plain sales man, the conclusion can be drawn that the strategic supply risk of the buyer is high.<sup>277</sup> Furthermore, lawsuits, disregards of intellectual property rights and project-specific troubles with the supplier are perceived to be further indicators of strategic supply risk related to formal treatment.<sup>278</sup>

Another five indicators can be subsumed under the heading ‘interest in cooperation’. The idea is that if the buyer is a preferred customer of the supplier, then the supplier should be interested in the buyer’s strategy/ roadmap. After all, cooperation and matching interests facilitate a long-lasting business relationship.<sup>279</sup> This finding also correlates strongly with the fact that *supplier’s and buyer’s roadmaps/ strategies do not fit* was identified as important strategic supply risk source. In addition, it was argued that the rejection of an exclusive contract through the supplier indicates not being a preferred customer. If a buyer is a preferred customer, the supplier should generally be inclined to accept an exclusive contract and in doing so reject the requests of other, non-preferred buyers.<sup>280</sup>

One qualitative indicator of strategic supply risk does not fit into any of the subcategories, namely *buyer’s employees’ impression of supplier*. However, this indicator seems to be a suggestion for how to get the information needed for

---

<sup>276</sup> „Also wir messen es ganz einfach daran, wer betreut uns beim Lieferanten. Welche Stellung hat der Vertriebsmann oder wie auch immer im Unternehmen. Betreut mich da jemand, der relativ hoch ist, oder der nur so ein Regionalverkaufsleiter ist.“

<sup>277</sup> „Wenn wir jetzt einen Audit anmelden. Wir fahren dahin und auf einmal sitzt die B-Mannschaft dort und das bin ich absolut nicht gewohnt von dem Lieferanten. Komisch würde ich dann sagen.“

<sup>278</sup> „Bei uns ist das so, klar haben wir auch mal Rechtsstreitigkeiten, dass...aber eigentlich egal wie das ausgeht, ist für uns die Nachhaltigkeit gestört.“

„Im Prinzip heißt es auch wir sperren so einen Nachunternehmer direkt, weil wir davon ausgehen, dass einer mit dem wir uns bei Projekt A streiten, bei Projekt B nicht ein gutes Angebot gegeben werden kann, und womöglich auch beauftragt werden kann.“

„Ja und das kommt ja auch beim Missbrauch geistigen Eigentums, das ist ja der Vertrauensbruch schlechthin.“

<sup>279</sup> „Wenn sie dort so in die Gegenrichtung geht und es kein Interesse besteht, warum wir eigentlich diese Roadmap haben, obwohl er eigentlich interessiert sein müsste, dann ist das sicherlich ein Indiz dafür, dass er nicht in die Richtung gehen wird.“

<sup>280</sup> „In dem Moment wo er [die Exklusivvereinbarung] ablehnt, wissen wir da ist ein anderer am Zuge.“

applying the other indicators rather than a distinct index for measuring strategic supply risk.<sup>281</sup>

Having elaborated on the qualitative indicators, attention is now drawn to the nine quantitative indicators. Unfortunately, the results are quite ‘scattered’. The only meaningful subcategory which could be created is ‘business indices’. Again, a correlation to the findings regarding the sources can be observed because *buyer’s purchases account for minor part of supplier turnover* was revealed to be an important strategic supply risk source. Coding for indicators of strategic supply risk has enabled to assign a concrete value to the meaning of ‘minor purchases’. This value is 10%.<sup>282</sup> Moreover, it is also important to check the supplier’s customer portfolio. Strategic supply risk is thought to increase if the supplier supplies a great share to competitors of the respective purchasing company.<sup>283</sup>

The other five indicators can hardly be subsumed under one common theme. However, there might be a connection between the supplier’s market share and the cost to get alternative supply. The higher the supplier’s market share, the harder it will be to get alternative supply for the buyer, especially in monopolistic markets.<sup>284</sup> Also, *bad reverse rating results* is probably connected to *bad evaluation of buyer’s performance through subcontractor* inasmuch as the latter can be seen as an example of the former.<sup>285</sup> Last but not least, the analysis disclosed two further indicators. Since the emphasis is on price, *price and thoroughness of supplier’s offer* was

---

<sup>281</sup> „Zum Beispiel auch interne Informationserhebung in den verschiedenen Abteilungen, denn der Lieferant spricht ja zum Beispiel auch mit der Produktionsleiter, mit dem Abteilungsleiter genauso wie mit dem in der Entwicklung, mit uns im Einkauf und wo der auch sonst noch hingehet, mit unserem Management. Und wenn ich dort die Leute abklappere, dann kriege ich auch schon einiges an Informationen.“

<sup>282</sup> „Ja also zu groß ist ja dann auch wieder in Problem, aber unter zehn Prozent sollten wir nicht sein.“

<sup>283</sup> „Wir gucken da aber auch ob wir tatsächlich der Größte sind, bei unserem Lieferanten oder ob das unserer Wettbewerber ist.“

„Wir schauen uns auch an, wie viel liefert denn Lieferant tatsächlich an unseren Konkurrenten.“

<sup>284</sup> „Eine weitere Kennzahl ist vielleicht auch welchen Marktanteil ein Lieferant oder Nachunternehmer hat.“

„Wenn wir jetzt nochmal auf die Kennziffern zurückzukommen. Also wie viel kostet mich das, wie viel Zeit braucht es eine Alternativlösung zu finden.“

<sup>285</sup> „Ein Mittel um auf so strategische Punkte rauszukommen, ist das Thema Reverse Rating. Also wenn wir jetzt gar nicht wissen, wieso wir beim Lieferanten nicht mehr so beliebt sind, dann kehren wir im Prinzip die Lieferantenbewertung um. Der bewertet uns dann mal um herauszufinden, woran hakt es jetzt eigentlich.“

„Bei uns ist ein gutes Mittel, und auch für die Zukunft, sicherzustellen, ist so eine Lieferanten oder Nachunternehmerbeurteilung nach Abschluss eines Projektes.“

categorized as quantitative.<sup>286</sup> Finally, when assessing the level of strategic supply risk buyers should account for the distribution of patents between them and the supplier. The more the supplier is willing to share patents or even transferring the patent rights entirely to the buyer, the more prone is the supplier to consider the respective buyer as a preferred and trustworthy customer.<sup>287</sup>

Summing up, the most important indicators of strategic supply risk seem to be responsiveness, interest in cooperation, formal treatment and business indices such as turnover share. It is important to bear in mind that the identified indicators are mostly ‘inverse’ indicators. For instance, the higher the supplier’s responsiveness, the lower is the strategic supply risk presumably. Moreover, a match between the prevailing themes of strategic supply risk sources (strategy mismatch and minor turnover share) and important themes of the indicators (business indices and interest in (strategic) cooperation) has been observed.

### *5.2.3 Cooperation, watertight contracts and strategy alignment: Dealing successfully with strategic supply risk*

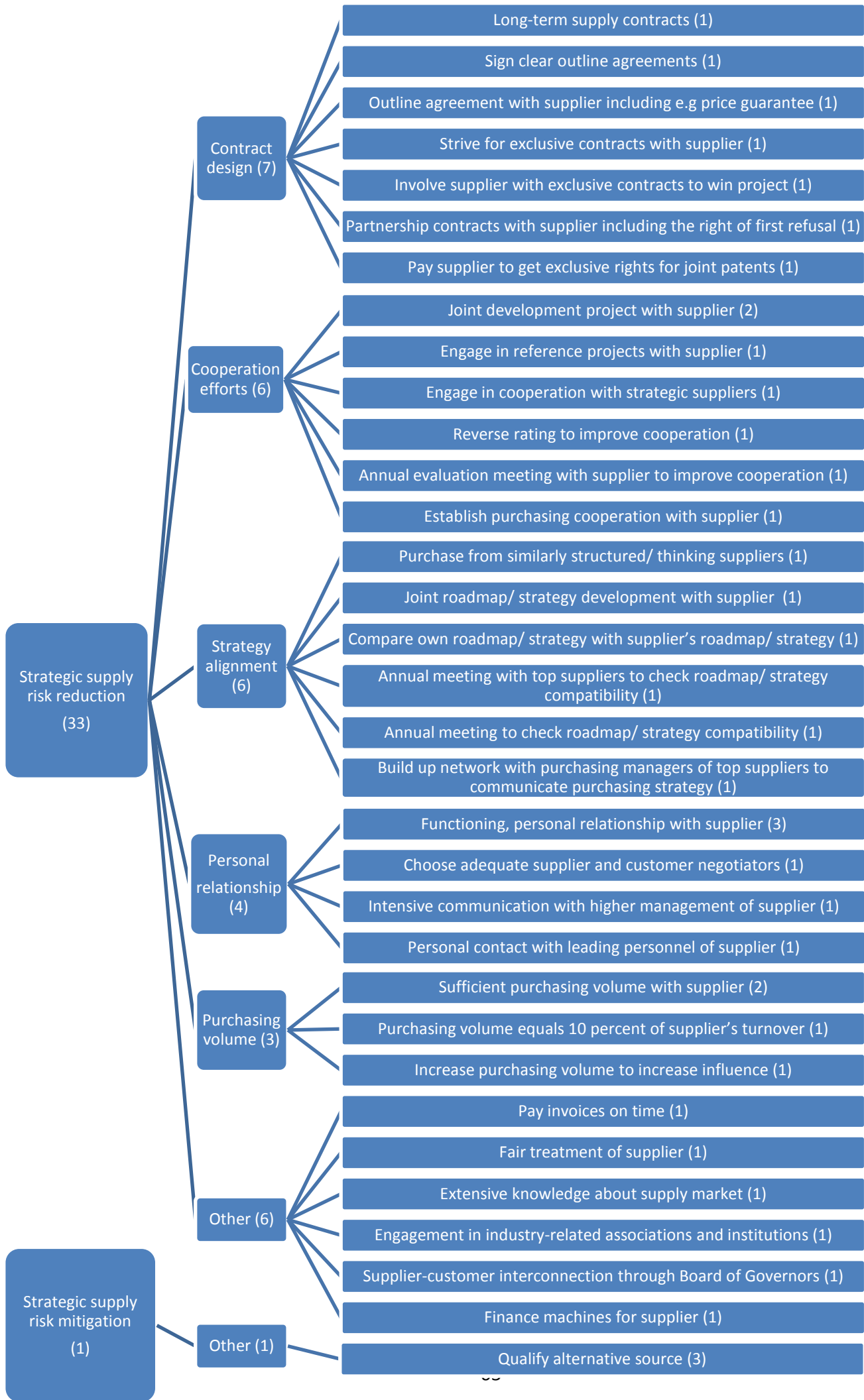
The ‘last’ step in managing supply risk is to deal with the identified and measured risk. Consequently, the final part of the inductive research was to identify tools for dealing with strategic supply risk. The number in brackets behind the code names denotes how often the code appeared in the data, whereas the number in brackets behind the (sub-) category names indicate how many codes fall into the respective category.

Figure 19 – Inductive coding results: Tools against strategic supply risk

---

<sup>286</sup> „Man kann ja auch sehen, ob der Lieferant anbietet und wie er anbietet, also zu welchem Preis. Ob er nur anbietet zu dem Preisartikel, weil er höflich ist, oder gar nicht anbietet.“

<sup>287</sup> „Also was bei uns natürlich auch technologisch sehr wichtig ist, ist ob wir mit dem Lieferanten gemeinsame Patente haben. Oder ob der Lieferant, ich sage jetzt mal so wie bei euch, von Anfang an die Schutzrechte oder Patentrechte an uns abtritt.“



Overall, thirty-three different tools were found in the data. Altogether, these tools occurred thirty-nine times and fall into two broad categories. On the one hand, there is the category of strategic risk mitigation. Following a risk mitigation strategy entails to acknowledge the risk and to try to mitigate its detrimental effects. Thus, the likelihood that the company is not a preferred customer does not decrease. Instead, the detrimental effects of not being a preferred customer are tried to be minimized. On the other hand, there is the category of strategic supply risk reduction. Here the aim is to reduce the sources of strategic supply risk. Hence, the detrimental effects of not being a preferred customer are not reduced. In contrast, the likelihood of not being a preferred customer is sought to be lowered.

The distribution of the results is heavily skewed. Thirty-three risk reduction tools could be identified as against one risk mitigation method. Admittedly, such a distribution is not optimal. However, the way a tool tackles risk (mitigation versus reduction) is the broadest and most distinct feature of any method for dealing with risk. Therefore, it was deemed most appropriate to classify the found risk tools primarily according to their way of tackling risk.

As already mentioned the vast majority of tools aims at risk reduction. These tools could be further classified into six subcategories. With seven codes the subcategory ‘contract design’ is the largest subcategory. The underlying logic is that strategic supply risk can be reduced through watertight, long-term contracts clearly outlining the duties and rights of both parties.<sup>288</sup> Unclear formulations or contracts leaving important aspects unregulated supposedly give rise to opportunism. Thus, buyers should generally opt for exclusive contracts<sup>289</sup> containing for instance price guarantees<sup>290</sup> and the right of first refusal<sup>291</sup>. This assures preferential treatment insofar as the respective buyer is always the first to whom the supplier makes an offer.

---

<sup>288</sup> „Man kann natürlich schon auch Rahmenverträge schließen, in denen man genau regelt wie man zusammenarbeitet.“

„Klar versuchen wir das vertraglich abzusichern, also langfristige Lieferverträge.“

<sup>289</sup> „Wir versuchen Exklusivvereinbarungen zu treffen.“

<sup>290</sup> „Rahmenverträge, [...] wo man sich vielleicht die Preise für zwei Jahre garantieren lässt.“

<sup>291</sup> „Also wir haben dann auch Partnerschaften mit Lieferanten, das geht dann viel weiter, das sind dann Zusammenarbeitsverträge und so weiter....das geht dann so weit, dass ich Vorkaufrecht habe.“



The idea behind the subcategory labeled ‘cooperation efforts’ is that the more interwoven the buyer and supplier are, the less likely is the supplier (and possibly also the buyer) not to care about the relationship. In this way, situations of mutual interdependence encourage the supplier to meet the requirements of the customer at all cost for it is dependent on the buyer. Ways to engage in cooperation with the supplier are manifold. According to the study, methods for buyer-supplier cooperation range from reference projects<sup>292</sup>, through reverse rating<sup>293</sup>, to establishing a purchasing cooperation<sup>294</sup> and joint development projects<sup>295</sup>.

The third subcategory contains six codes and deals with ‘strategy alignment’ as effective strategic supply risk reduction tool. It was argued that similar roadmaps/ strategies between supplier and buyer entail similar interests and courses of action. As a repercussion, suppliers will treat similar-minded buyers preferentially. Also, there is little room for opportunistic behavior since the buyer’s goals and the supplier’s interests match. For buyers, the first step in applying this general tool is to compare their roadmap/ strategy with the supplier’s roadmap/ strategy<sup>296</sup> and to communicate one’s strategy e.g. by building a network with the purchasing managers of the top suppliers<sup>297</sup>. The analysis suggests that strategy comparison is seen as a continuous process. Annual meetings with the supplier can for example serve as platform for addressing strategy issues. Following the coding results, tackling potential strategy differences is done best in two ways: either through joint roadmap/

---

<sup>292</sup> „Also bei uns funktioniert das meist per Referenzprojekte ganz gut um dann halt auch organisatorisch bis in die Vorstand- oder Geschäftsleitung hinzukommen.“

<sup>293</sup> „Also Reverse Rating halte ich generell nicht für schlecht. Um die Zusammenarbeit zu verbessern, ist es sicherlich ein gutes Element. Und wenn sie so wollen, verbesserte Zusammenarbeit reduziert natürlich auch gewisse Risiken.“

<sup>294</sup> „Kann ja sein, dass man zum Beispiel Einkaufskooperationen gründet mit seinem Lieferanten und unsere Marktmacht in Führungszeichen nutzen um unseren Lieferanten zu unterstützen.“

<sup>295</sup> „Oder ein anderes Thema wäre dann auch gemeinsame Produktentwicklung. [...]Dann erreiche ich natürlich eine ganz andere strategische Bindung mit dem Lieferanten.“

<sup>296</sup> „Wir machen das zum Beispiel so mit unseren Lieferanten, dass wir unsere Roadmap mit der der Lieferanten abgleichen.“

<sup>297</sup> „Also haben wir ein Netzwerk mit den Einkaufsleitern unserer Lieferanten gegründet, wo wir uns austauschen über Themen und wir nutzen das auch als Plattform um unserer Einkaufsstrategie mitzuteilen.“

strategy development<sup>298</sup> or through a careful pre-selection/ screening of suppliers with the goal of singling out similar-minded suppliers<sup>299</sup>.

'Personal relationship' is the fourth identified subcategory of risk reduction tools. The six assigned tools focus on the improvement of the individual relationships of buyer's and supplier's staff for reducing strategic supply risk. The assumption is that the impression these people make on each other, for instance the purchasing manager of the buyer on the sales manager of the supplier, has far-reaching consequences for the buyer's reputation at the supplier. Therefore, buyers should emphasize the importance of a functioning, personal relationship with the supplier<sup>300</sup> in order to counteract strategic supply risk. The importance of this tool is also stressed by the fact that it is the overall most frequently mentioned tool. Improving personal relationships can be achieved for example through carefully selecting supplier and customer negotiators<sup>301</sup>. This finding is also congruent with the identification of *purchasing employee of buyer and sales agent of supplier do not get along* as a strategic supply risk source. In addition, the analysis suggests that intensive communication<sup>302</sup> and personal contact with the leading personnel of the supplier<sup>303</sup> are further tools for improving the relationship and thus reducing strategic supply risk.

The fifth subcategory is titled 'purchasing volume'. The reasoning is simple and is connected the identification of low purchasing volume as strategic supply risk indicator and source, respectively. The higher the purchasing volume, the greater the (financial) impact the buyer has on the supplier, the greater the buyer's

---

<sup>298</sup> „Also wir bieten Lieferanten auch teilweise Roadmapentwicklung an, also wir sind ja Technologieführer und das wollen wir auch bleiben, und ohne Lieferanten geht das nicht.“

<sup>299</sup> „Das machen wir halt, das heißt also wenn es möglich ist, dann arbeiten wir mit Familienunternehmen, genau wie wir auch, zusammen, weil die genau so denken wie wir.“

<sup>300</sup> „Lieferantenkundebeziehung im Prinzip, also die ist sehr, sehr wichtig.“

<sup>301</sup> „Und dann tauscht man den einen oder anderen aus und auf einmal läuft es wieder.“

<sup>302</sup> „Das wäre vielleicht eine Möglichkeit oder tatsächlich eben aktiv auf die Ebene des Vertriebs oder des höheren Managements zuzugehen und einfach sich bemerkbar zu machen.“

<sup>303</sup> „Zum Beispiel kenne ich natürlich viele, auch weil ich von der Technik herkommen, sehr viele technische Ansprechpartner unserer Lieferanten, die im Laufe der Jahre natürlich auch gewachsen sind in der Hierarchie. Da haben wir dann natürlich einen ganz anderen Hebel als unser Konkurrent dann zu dem. Also das sind manchmal persönliche Kriterien.“

importance.<sup>304</sup> Moreover, the discussion revealed that a sufficient purchasing volume equals approximately ten percent of the supplier's turnover<sup>305</sup>.

Last but not least, there are six ungrouped strategic risk reduction tools. In fact, paying invoices on time<sup>306</sup> can be seen as an example of fair treatment<sup>307</sup>. Furthermore, extensive knowledge about the supply market<sup>308</sup> for example about upcoming capacity shortages on time is thought to reduce strategic supply risk, too. Gaining such knowledge is facilitated for example by engaging in industry-related associations<sup>309</sup> and supplier-customer interconnection through Board of Governors<sup>310</sup>. Finally, financing machines for the supplier<sup>311</sup> is thought to reduce strategic supply risk for letting the supplier pay back its debt with products rather than money ensures long-term supply.

In case a buyer is not keen on reducing the risk but wants to focus on risk effect mitigation, qualifying an alternative appears to be the appropriate solution.<sup>312</sup> At least, this is the only strategic supply risk mitigation tool which could be identified through the study. Again, doing so does not reduce the risk of not being a preferred customer but lowers the costs of non-preferential treatment.

To put it in a nutshell, nearly all identified tools aim at reducing the risk rather than mitigating its effects. If one had to single out the two most promising risk reduction

---

<sup>304</sup> „Ja also Volumenerhöhung, also dass sie attraktiver werden indem sie mit mehr Umsatz winken.“

<sup>305</sup> „Aber zehn Prozent, sagen wir bei uns, damit mein Wort auch was zählt. Wenn ich in der Verhandlung was riskiere, dann wird er mein Gewicht auch spüren.“

„Sie müssen dann natürlich mehr Umsatz machen. Ideal liegt der bei fünf bis zehn Prozent.“

<sup>306</sup> „Also wir zahlen unsere Rechnungen immer sehr pünktlich, also Tag-genau, weil das bei uns über die ganzen elektronischen Systeme geht, da haben sie dann genug Freiheit. Wenn sie die Lieferanten pünktlich bezahlen, das merken die Leute sich. Das muss man einfach sagen, da haben wir einen Riesenvorteil, auch jetzt in der Krise. Das merken die Leute sich.“

<sup>307</sup> „Da muss man fair miteinander umgehen, dass man das quasi honoriert, dass wenn uns einer zum Auftrag verhilft, dass wenn wir gewinnen, er auch den Auftrag bekommt.“

<sup>308</sup> „Das braucht natürlich eine gute Kenntnis des Lieferantenmarktes, welches immer gefordert wird von den Einkäufern, welches aber häufig ist es schwach geworden.“

<sup>309</sup> „Na gut, was wir dann nochmal probieren ist dann in Gremien mit zusammen zu arbeiten. Also wir engagieren uns natürlich sehr stark in dem VDMA, das ist der Verband für Maschinen- und Anlagenbauer. Da sind wir halt auch in den Gremien und Vorständen zugegen. Über die Tour natürlich auch mehr an die Lieferanten rankommen.“

<sup>310</sup> „Da hat man sage ich mal wieder eine gute strategische Fahne, das heißt, wenn da wichtiges Material ist, hat bei uns der Familienrat gesagt, okay, da will ich irgendeinen aus dem Kreise in den Aufsichts- oder Verwaltungsrat packen.“

<sup>311</sup> „Also was wir zum Beispiel machen ist, dass wir Lieferanten gewisse Maschinenausstattungen finanzieren, welche er dann über Folgeaufträge abschreiben kann.“

<sup>312</sup> „Der Standardlösungsansatz fehlt mir hier, nämlich second oder third Source.“

„Was passiert denn wenn der Lieferant nicht mehr liefern will? Dass wir dann dafür sorgen, dass wir eine Alternative haben.“

tools based on this study, these would be ‘contract design’ and ‘cooperation efforts’. Thus, in order to reduce their strategic supply risk buyers should conclude exclusive contracts with suppliers which clearly regulate all important aspects of the relationship. Such contracts ensure the preferential status ‘de jure’. Secondly, cooperation with the supplier in order to ensure cooperative interdependence between the two parties makes the buyer a preferred customer ‘de facto’. In contrast, companies striving for mitigating the detrimental effects of strategic supply risk should focus on securing alternative supply.

Moreover, the three analyses revealed a profound match of strategic supply risk sources, indicators and measures. The theme ‘strategy/ market behavior of the supplier’ (sources) relates well to ‘supplier’s interest in the buyer’ (indicators) and ‘strategy alignment’ (tools). More to the point, themes connected to purchasing volume and turnover share appear throughout the results of the sources (‘buyer’s share of supplier’s overall turnover’), indicators (‘business indices’) and tools (‘purchasing volume’).

## **6 Conclusion**

### ***6.1 Theoretical implications: Preferred customer status as a type of social capital***

Based on the results of the exploratory analysis, social capital theory is clearly the theory which captures the phenomenon of strategic supply risk best. Therefore, further elaborations on a distinct strategic supply risk theory should be based on the insights from social capital theory. Following the findings, preferred customer status appears to consist of the dimensions of social capital. Looking at the results for the tools, it appears that strategic supply risk can be reduced by augmenting the relational (relationship development), cognitive (strategy alignment) and structural (cooperation) dimension of social capital. Hence, a preferred customer status could be regarded as a specific type of social capital. That is why it should be treated as an asset entailing that its generation requires the investment of “economic and cultural resources”<sup>313</sup>. It is important to keep in mind that treating a preferred customer status as a form of social capital also involves relationship specificity. As a quasi-public

---

<sup>313</sup> Portes (1998), p. 4.

good, social capital can neither be accessed by outsiders, nor can it be used outside the relationship/ network.

Speaking of networks, one important aspect of social capital theory is that it particularly applies to networks rather than dyads.<sup>314</sup> Therefore, it seems possible that a preferred customer status can also be developed through creating and engaging in (supply chain) networks. One example of such networks are business clusters which can be defined as “geographically proximate group[s] of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities”<sup>315</sup>. Based on this study’s findings, and having in mind Steinle and Schiele’s observation that a preferred customer status is easier to achieve with suppliers located in the same cluster than with remote suppliers,<sup>316</sup> it appears reasonable to deduce further insights on strategic supply risk from cluster theory.

Nevertheless, a fully fledged strategic supply risk theory cannot neglect the found importance of turnover share and contract design. Possibly, a considerable share of supplier’s turnover can be seen as necessary but not sufficient for a preferred customer status. The importance of contract design on the other hand could be alleviated through relational capital formation as it has been found that trust and commitment can act as a governance mechanism.<sup>317</sup> High relational capital would certainly not render contracts obsolete. However, it could correct the contract’s shortcomings by preventing opportunism in aspects of the relationship which are not clearly regulated through the contract.

## ***6.2 Managerial implications: Designing strategic supply risk management systems***

The practical purpose of this paper is to provide managers with first guidelines on how to set up a strategic supply risk management system. The first step of a supply risk management system is to identify the sources. The study identified that there are three important sources of strategic supply risk: strategy, treatment and turnover.

---

<sup>314</sup> See e.g. Putnam (1995a), p. 67.

<sup>315</sup> Porter (1998), p. 199.

<sup>316</sup> See Steinle/Schiele (2008), p. 12.

<sup>317</sup> See Tsai/Ghoshal (1998), p. 465.

Differences in the strategic orientations of buyer and supplier constitute the major strategic supply risk source. Therefore, managers should focus on the compatibility of the buyer's and the supplier's goals and interests already when screening for potential suppliers. By this, potential strategic supply risk causes can be identified (and avoided) early. With current suppliers, frequent meetings should be held at which the future strategy and the envisioned roadmap are discussed. It goes without saying that for doing so buyers first of all need to have a clear (purchasing) strategy themselves. Only then strategy differences can be identified. Second of all, buyers are advised to analyze their formal treatment of the supplier. Do we respect the intellectual property rights of the supplier? Is the supplier treated fairly and as a partner or is it squeezed for profits? These are questions managers need to address in order to identify their company's particular strategic supply risk sources. Last but not least, Williamson's assertion that preferred customer status is rooted in high-volume purchases receives further support.<sup>318</sup> The results suggest that a purchasing volume accounting only for a little share of the supplier's turnover can cause strategic supply risk.

Moreover, the findings indicate that buyers' monitoring and assessment efforts should concentrate on the suppliers' responsiveness, cooperation, treatment and turnover. Longer response times, little reaction to improvement suggestions and diminishing service quality – all these seem to be indicators of low responsiveness and thus of high strategic supply risk. What is more, buyers need to assess the supplier's interest in cooperating and in developing a close relationship with the buyer. An elevated level of strategic supply risk can for instance show through the supplier's indifference to reducing strategy incongruence and the rejection of an exclusive contract. Also, the supplier's formal treatment of the buyer has to be assessed, for example by evaluating the contact person's organizational position and the supplier's compliance with the buyer's intellectual property rights. Finally, buyers should monitor whether their share of the supplier's turnover drops below ten percent and should compare their turnover share to those of their competitors.

With respect to the tools, the study provides managers with five important tools: contract design, cooperation, strategy alignment, relationship development and

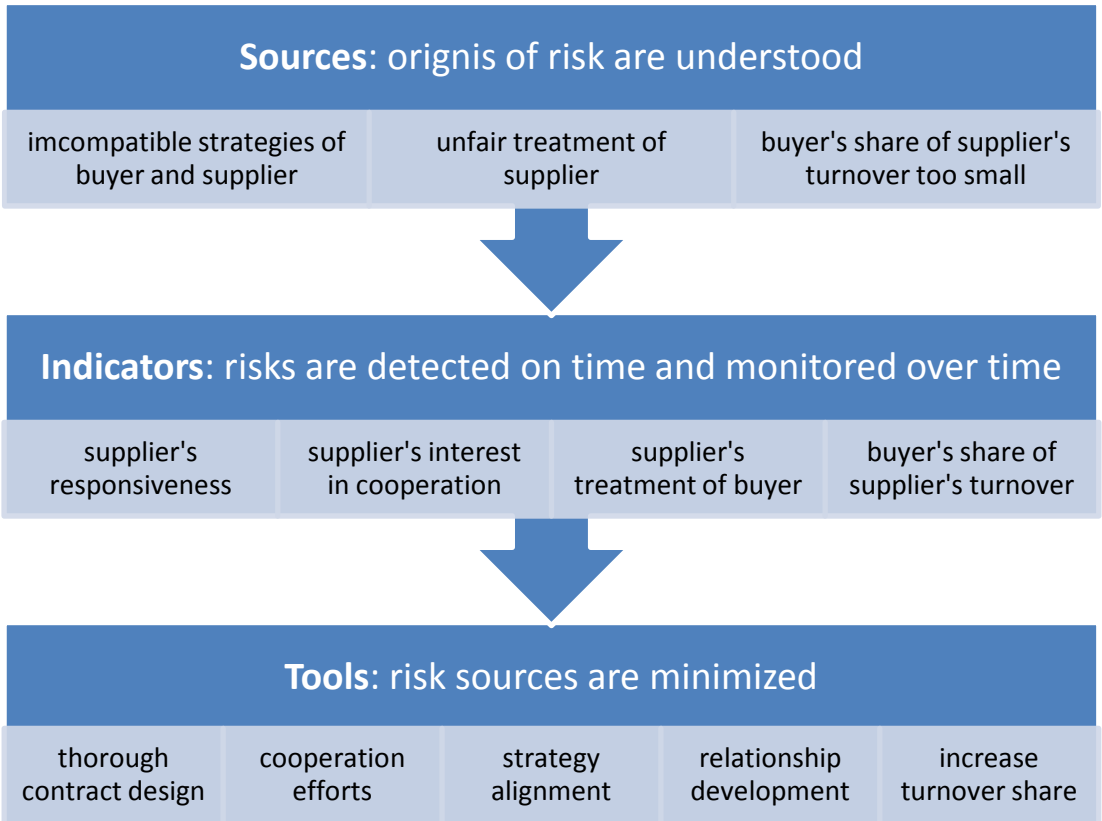
---

<sup>318</sup> See Williamson (1991), p. 81.

purchasing volume. Detailed, long-term as well as exclusive contracts seem to effectively reduce strategic supply risk. Moreover, it is recommended to buyers to develop close relationships with their key suppliers. According to the analysis, joint development projects, reference projects and reverse rating are useful methods for doing so. Another important tool which could be identified is strategy alignment. Establishing strategy compatibility as criterion for supplier selection, engaging in joint roadmap/ strategy development with the supplier and scheduling meetings for discussing strategic issues are seen as promising tools for reducing the major source of strategic supply risk: strategy differences between the buyer and the supplier. Further, it is proposed that buyers work on the personal relationships between their and the supplier's staff. Eventually, also the purchasing volume represents a tool for counteracting strategic supply risk. Buyers could for instance bundle purchases at one supplier in order to achieve a ten percent share of turnover. Therefore, sourcing from suppliers which are too big compared to the buyer should be avoided - also to avoid potential strategy differences which accrue from differences in size.

In conclusion, an effective strategic supply risk management system could be designed as it is depicted below. It has to be borne in mind that supply risk management is to be understood as a reoccurring process.

Figure 20 – Draft of a strategic supply risk management system



## **7 Literature contribution, limitations and further research**

This research adds important insights to the current supply risk management literature as well as to theory-oriented business literature. Therefore, the findings of this research are of just as great importance to practitioners as to academics.

First and foremost, this study enriches the literature on supply risk management for it is the first to approach the preferred customer phenomenon from a risk management perspective. More to the point, it is the first to treat the risk of not being a preferred customer as distinct supply risk type. Further, it adds to the literature on supply risk management by embedding strategic supply risk into a supply risk management system. Hence, due to the encompassing research approach to examine sources, indicator *and* tools of strategic supply risk, managers are provided with first guidelines on how to manage their company's risk of not being a preferred customer.

Secondly, the findings of this study lay the theoretical foundation for further studies on strategic supply risk. To the best of my knowledge, no other study has yet tried to embed the risk of not being a preferred customer in extant organizational and sociological theories. This research is the first to enucleate that social capital theory captures the preferred customer phenomenon well and that a preferred customer status can possibly be treated as a specific form of social capital. The study also illustrates that the concept of customer attractiveness and preferred customer might not be congruent. It seems that it is not resources or capabilities specific to a particular buyer which attract suppliers and induce preferential treatment. Quite the reverse, it appears to be the social structure which is created by buyer and supplier from which resources and capital such as a preferred customer status can be derived. This might indicate that there can hardly be universal buyer attributes which assure preferential treatment. Instead, preferential treatment appears to be relationship, respectively network specific.

Nevertheless, the study has its limitations. Only sixteen purchasing managers participated in the workshop which constitutes a considerably small sample size. In addition, only purchasing managers were part of this research. The outcomes might have been different if it had been sales managers discussing about which buyer they treat preferentially and why. Also, all participants were from Western Europe and



from a limited set of industries. Therefore, one has to be cautious about inferences about other industrial settings and cultures. Most importantly, however, it has to be kept in mind that this is an exploratory study. Consequently, neither could hypotheses be tested nor can predictions be made. Instead, the goal is to generate new ideas, conjectures and hypotheses, and to formulate questions for further research.

Future research should test the findings of this study with a larger and representative sample including the supplier's perspective. Furthermore, the identified indicators such as supplier's responsiveness and tools such as strategy alignment need further operationalization. Also, threshold values indicating for example which degree of strategy compatibility and tie strength is decisive for achieving a preferred customer status need to be developed. Last but not least, strategic supply risk should be approached from a network perspective such as cluster theory in order to support or refute the conjecture that a preferred customer status can also result from engaging in a (supply chain) network.

Cutting a long story short, as self-sufficiency is an illusion, fair and respectful relations are indispensable.

## References

1. Adhitya, A., Srinivasan, R., & Karimi, I. A. (2009). Supply chain risk identification using a HAZOP-based approach. *AIChE Journal*, 55(6), 1447-1463.
2. Adler, P. S., & Kwon, S.-W. (2002). Social Capital: Prospects for a New Concept. *The Academy of Management Review*, 27(1), 17-40.
3. Ahuja, G. (2000). Collaboration Networks, Structural Holes, and Innovation: A Longitudinal Study. *Administrative Science Quarterly*, 45(3), 425-455.
4. Amit, R., & Schoemaker, P. J. H. (1993). Strategic Assets and Organizational Rent. *Strategic Management Journal*, 14(1), 33-46.
5. Anderson, M. (2004). Outsourcing: A growing trend for optomechanical assemblies. *Photonics Spectra*, 38(4), 104-108.
6. Antras, P., Garicano, L., & Rossi-Hansberg, E. (2006). Offshoring in a knowledge economy. *Quarterly Journal of Economics*, 121(1), 31-77.
7. Arnold, U. (1989). Global Sourcing - An indispensable element in worldwide competition. *Management International Review*, 29(4), 14-28.
8. Baker, G. P. (1992). Incentive Contracts and Performance Measurement. *The Journal of Political Economy*, 100(3), 598-614.
9. Baker, W. E. (1990). Market Networks and Corporate Behavior. *The American Journal of Sociology*, 96(3), 589-625.
10. Barney, J. B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
11. Benoit A., A. (1998). Assessing the Risk of IT Outsourcing. CIRANO.
12. Bensaou, M. (1999). Portfolios of buyer-supplier relationships. *Sloan Management Review*, 40(4), 35-44.
13. Benson, J. K. (1975). The interlocking network as a political economy. *Administrative Science Quarterly*, 20(2), 229-249.
14. Bingham, C. B., & Eisenhardt, K. M. (2008). Position, Leverage and Opportunity: A Typology of Strategic Logics Linking Resources with Competitive Advantage. *Managerial and Decision Economics*, 29(2/3), 241-256.
15. Blackhurst, J. V. (2008). Supplier risk assessment and monitoring for the automotive industry. *International Journal of Physical Distribution & Logistics Management*, 38(2), 143-165.

16. Blinder, A. S. (2006). Offshoring: The next industrial revolution? *Foreign Affairs*, 85(2), 113-128.
17. Bourdieu, P. (1985). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.
18. Boyatzis, R. E. (1998). *Transforming qualitative information: thematic analysis and code development*: SAGE Publications, Inc
19. Boyd, B. (1990). Corporate linkages and organizational environment: A test of the resource dependence model. *Strategic Management Journal*, 11(6), 419.
20. Bradach, J. L., & Eccles, R. G. (1989). Price, Authority, and Trust: From Ideal Types to Plural Forms. *Annual Review of Sociology*, 15, 97-118.
21. Brown, J., & Isaacs, D. (2005). *The World Café: shaping our futures through conversations that matter*: Berrett-Koehler Publishers.
22. Burt, R. (1992). *Structural Holes - The social structure of competition*. Cambridge, MA: Harvard University Press.
23. Carr, A. S., & Pearson, J. N. (1999). Strategically managed buyer-supplier relationships and performance outcomes. *Journal of operations management*, 17(5), 497-519.
24. Chopra, S., & Sodhi, M. S. (2004). Managing Risk To Avoid Supply-Chain Breakdown. *MIT Sloan Management Review*, 46(1), 53-62.
25. Christiansen, P. E. (2002). Becoming an "interesting" customer: Procurement strategies for buyers without leverage. *International journal of logistics*, 5(2), 177-195.
26. Christopher, M., & Jüttner, U. (2000). Developing strategic partnerships in the supply chain: a practitioner perspective. *European Journal of Purchasing & Supply Management*, 6(2), 117-127.
27. Clemons, E. (2000, June 13). Gauging the power play in the new economy. *Financial Times*, 2-4.
28. Coleman, J. S. (1988). Social capital in the creation of human capital. *American journal of sociology*, 94(1), 95-120.
29. Conner, K. R. (1991). A Historical Comparison of Resource-Based Theory and Five Schools of Thought Within Industrial Organization Economics: Do We Have a New Theory of the Firm? *Journal of Management*, 17(1), 121-154.
30. Conte, G. (1998). The outsourcing trend and the role of the manufacturer's representative. *Chimica Oggi-Chemistry Today*, 16(10), 16-32.
31. Corbett, C. J., & Groote, X. d. (2000). A Supplier's Optimal Quantity Discount Policy under Asymmetric Information. *Management Science*, 46(3), 444-450.

32. Corbett, M. F. (1994). Outsourcing and the new IT Executive - A trends report. *Information Systems Management, 11*(4), 19-22.
33. Cox, A. (1996). Relational competence and strategic procurement management : Towards an entrepreneurial and contractual theory of the firm. *European Journal of Purchasing & Supply Management, 2*(1), 57-70.
34. Cunningham, S. (2001). Outsourcing: the key to adding value. [Article]. *International Tax Review, 12*(6), 13-17.
35. Das, T. K., & Teng, B. S. (1999). Managing risks in strategic alliances. *Academy of Management Executive, 13*(4), 50-62.
36. Davis, T. (1993). Effective supply chain management. *Sloan Management Review, 34*(4), 35-46.
37. De Groot, H. L. F. (2001). Macroeconomic consequences of outsourcing: An analysis of growth, welfare, and product variety. *Economist-Netherlands, 149*(1), 53-79.
38. de Wit, B., & Meyer, R. (2004). *Strategy: Process, Content, Context - An International Perspective*. London: South-Western College Pub.
39. Dees, J. (1992). Opportunism dynamics in strategic alliances. In B. NE & R. Freeman (Eds.), *Ethics and Agency Theory* (pp. 25-59). New York/Oxford: Oxford University Press.
40. Dierickx, I., & Cool, K. (1989). Asset Stock Accumulation and Sustainability of Competitive Advantage. *Management Science, 35*(12), 1504-1511.
41. Dore, R. (1983). Goodwill and the Spirit of Market Capitalism. *The British Journal of Sociology, 34*(4), 459-482.
42. Duschek, S. (2004). Inter-firm resources and sustained competitive advantage. *management revue. The International Review of Management Studies, 15*(1), 53-73.
43. Dyer, J. H., & Singh, H. (1998). The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage. *The Academy of Management Review, 23*(4), 660-679.
44. Eisenhardt, K. M. (1989). Agency Theory: An Assessment and Review. *The Academy of Management Review, 14*(1), 57-74.
45. Ellegaard, C. (2003). Managing industrial buyer-supplier relations—the case for attractiveness. *Integrated manufacturing systems, 14*(4), 346-356.
46. Ellegaard, C. (2008). Supply risk management in a small company perspective. *Supply Chain Management, 13*(6), 425-434.

47. Ellram, L. M., & Carr, A. S. (1994). Strategic purchasing: a history and review of the literature. *International Journal of Purchasing and Materials Management*, 30(2), 9-19.
48. Elmuti, D., & Kathawala, Y. (2000). The effects of global outsourcing strategies on participants' attitudes and organizational effectiveness. *International Journal of Manpower*, 21(1-2), 112-128.
49. Evans, J. R., & Laskin, R. L. (1994). The relationship marketing process - a conceptualization and application. *Industrial Marketing Management*, 23(5), 439-452.
50. Frenzen, J., & Nakamoto, K. (1993). Structure, Cooperation, and the Flow of Market Information. *The Journal of Consumer Research*, 20(3), 360-375.
51. Gadde, L. E., & Snehota, I. (2000). Making the most of supplier relationships. *Industrial Marketing Management*, 29(4), 305-316.
52. Galloro, V. (2001). Out and out trend. Annual survey shows just how popular outsourcing is with healthcare providers. *Mod Healthc*, 31(36), 57-60.
53. Gelderman, C. J., & Van Weele, A. J. (2003). Handling measurement issues and strategic directions in Kraljic's purchasing portfolio model. *Journal of Purchasing and Supply Management*, 9(5-6), 207-216.
54. Geyskens, I., Steenkamp, J.-B. E. M., Scheer, L. K., & Kumar, N. (1996). The effects of trust and interdependence on relationship commitment: A trans-Atlantic study. *International Journal of Research in Marketing*, 13(4), 303-317.
55. Gilley, K. M., & Rasheed, A. (2000). Making more by doing less: An analysis of outsourcing and its effects on firm performance. *Journal of Management*, 26(4), 763-790.
56. Gjesdal, F. (1982). Information and Incentives: The Agency Information Problem. *The Review of Economic Studies*, 49(3), 373-390.
57. Glaser, V. (2001). New outsourcing models drive steady growth in this sector. *Genetic Engineering News*, 21(15), 16-24.
58. Glass, A. J., & Saggi, K. (2001). Innovation and wage effects of international outsourcing. *European Economic Review*, 45(1), 67-86.
59. Gold, S. (2010). Sustainable supply chain management and inter-organizational resources: A literature review. *Corporate Social - Responsibility and Environmental Management*, 17(4), 230-245.

60. Goldberg, S. H., Davis, S. C., & Pegalis, A. M. (1999). *Y2K risk management: contingency planning, business continuity, and avoiding litigation*: John Wiley & Sons, Inc.
61. Gorg, H., Hanley, A., & Strobl, E. (2008). Productivity effects of international outsourcing: evidence from plant-level data. *Canadian Journal of Economics-Revue Canadienne D Economique*, 41(2), 670-688.
62. Granovetter, M. S. (1973). The Strength of Weak Ties. *The American Journal of Sociology*, 78(6), 1360-1380.
63. Grant, R. (1991). The Resource-Based Theory of Competitive Advantage. *California Management Review*, 33(3), 114-135.
64. Gu, F. F. (2008). When does guanxi matter? Issues of capitalization and its dark sides. *Journal of Marketing*, 72(4), 12-28.
65. Gulati, R., & Sytch, M. (2007). Dependence Asymmetry and Joint Dependence in Interorganizational Relationships: Effects of Embeddedness on a Manufacturer's Performance in Procurement Relationships. *Administrative Science Quarterly*, 52(1), 32-69.
66. Gwinner, K., Gremler, D., & Bitner, M. (1998). Relational benefits in services industries: The customer's perspective. *Journal of the Academy of Marketing Science*, 26(2), 101-114.
67. Hald, K. S., Cordón, C., & Vollmann, T. E. (2009). Towards an understanding of attraction in buyer-supplier relationships. *Industrial Marketing Management*, 38(8), 960-970.
68. Hallikas, J. (2004). Risk management processes in supplier networks. *International journal of production economics*, 90(1), 47.
69. Hallikas, J., Puumalainen, K., Vesterinen, T., & Virolainen, V.-M. (2005). Risk-based classification of supplier relationships. *Journal of Purchasing and Supply Management*, 11(2-3), 72-82.
70. Hallikas, J., Virolainen, V.-M., & Tuominen, M. (2002). Risk analysis and assessment in network environments: A dyadic case study. *International journal of production economics*, 78(1), 45-55.
71. Hansen, M. T. (1999). The Search-Transfer Problem: The Role of Weak Ties in Sharing Knowledge across Organization Subunits. *Administrative Science Quarterly*, 44(1), 82-111.
72. Hanssen-Bauer, J., & Snow, C. C. (1996). Responding to Hypercompetition: The Structure and Processes of a Regional Learning Network Organization. *Organization Science*, 7(4), 413-427.

73. Harland, C., Brenchley, R., & Walker, H. (2003). Risk in supply networks. *Journal of Purchasing and Supply Management*, 9(2), 51-62.
74. Harris, L. C., O'Malley, L., & Patterson, M. (2003). Professional Interaction: Exploring the Concept of Attraction. *Marketing Theory*, 3(1), 9-36.
75. Holmstrom, B. (1982). Moral Hazard in Teams. *The Bell Journal of Economics*, 13(2), 324-340.
76. Hottenstein, M. P. (1970). Expediting in job-order-control systems: a simulation study. *IIE transactions*, 2(1), 46-54.
77. Inkpen, A. C. (2000). Learning Through Joint Ventures: A Framework Of Knowledge Acquisition. *Journal of Management Studies*, 37(7), 1019-1044.
78. Ireland, R. D., & Webb, J. W. (2007). A multi-theoretic perspective on trust and power in strategic supply chains. *Journal of operations management*, 25(2), 482-497.
79. Jacobs, J. (1961). *Death and Life of Great American Cities*. New York: Random House.
80. Jap, S. D. (1999). Pie-Expansion Efforts: Collaboration Processes in Buyer-Supplier Relationships. [Article]. *Journal of Marketing Research (JMR)*, 36(4), 461-475.
81. Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
82. Jiang, B., Frazier, G. V., & Prater, E. L. (2006). Outsourcing effects on firms' operational performance - An empirical study. *International Journal of Operations & Production Management*, 26(11-12), 1280-1300.
83. Johnson, B. L. (1995). *Resource dependence theory: A political economy model of organizations*. Utah: University of Utah.
84. Johnson, M. E. (2001). Learning from toys: Lessons in managing supply chain risk from the toy industry. *California Management Review*, 43(3), 106-124.
85. Jüttner, U. (2003). Supply chain risk management: outlining an agenda for future research. *International journal of logistics*, 6(4), 120-141.
86. Kakabadse, A., & Kakabadse, N. (2005). Outsourcing: Current and future trends. *Thunderbird International Business Review*, 47(2), 183-204.
87. Kaufman, A., Wood, C. H., & Theyel, G. (2000). Collaboration and technology linkages: a strategic supplier typology. *Strategic Management Journal*, 21(6), 649-663.
88. Kelle, U. (1995). *Computer-aided qualitative data analysis*: SAGE Publications Ltd.
89. Kleindorfer, P. R., & Saad, G. H. (2005). Managing Disruption Risks in Supply Chains. *Production and Operations Management*, 14(1), 53-68.

90. Knemeyer, A. M. (2009). Proactive planning for catastrophic events in supply chains. *Journal of operations management*, 27(2), 141-153.
91. Koch, C. (1995). *Economic transactions, opportunistic behavior and protective mechanisms*. Odense: University of Southern Denmark.
92. Kraatz, M. S. (1998). Learning by Association? Interorganizational Networks and Adaptation to Environmental Change. *The Academy of Management Journal*, 41(6), 621-643.
93. Kraljic, P. (1977). Neue Wege im Beschaffungsmarketing. *Manager-Magazin*, 11, 72-77.
94. Kraljic, P. (1983). Purchasing must become supply management. *Harvard Business Review*, 108-117.
95. Krause, D. R., Handfield, R. B., & Tyler, B. B. (2007). The relationships between supplier development, commitment, social capital accumulation and performance improvement. *Journal of operations management*, 25(2), 528-545.
96. Kull, T. J., & Talluri, S. (2008). A supply risk reduction model using integrated multicriteria decision making. *IEEE Transactions on Engineering Management*, 55(3), 409-419.
97. Laffont, J.-J., & Martimort, D. (2001). *The theory of incentives - The principal-agent model*. Princeton: Princeton University Press.
98. Lavie, D. (2006). The competitive advantage of interconnected firms: An extension of the resource-based view [Article]. *Academy of Management Review*, 31(3), 638-658.
99. Lawson, B., Tyler, B. B., & Cousins, P. D. (2008). Antecedents and consequences of social capital on buyer performance improvement. *Journal of operations management*, 26(3), 446-460.
100. Levary, R. R. (2007). Ranking foreign suppliers based on supply risk. *Supply Chain Management*, 12(6), 392-394.
101. Levitt, T. (1980). Marketing success through differentiation of anything. *Harvard Business Review*, 58(1), 83-91.
102. Lewin, J. E., & Johnston, W. J. (1997). Relationship marketing theory in practice: A case study. *Journal of Business Research*, 39(1), 23-31.
103. Lewis, J. (1995). *The Connected Corporation*. New York: The Free Press.
104. Lincoln, J. R., Gerlach, M. L., & Takahashi, P. (1992). Keiretsu Networks in the Japanese Economy: A Dyad Analysis of Intercorporate Ties. *American Sociological Review*, 57(5), 561-585.



105. Lonsdale, C. (2001). Locked-In to Supplier Dominance: On the Dangers of Asset Specificity for the Outsourcing Decision. *Journal of Supply Chain Management*, 37(2), 22-27.
106. Madhani, P. (2010). The resource-based view: issues and perspectives. *PACE, A Journal of Research of Prestige Institute of Management*, 1(1), 43-55.
107. Manuj, I. (2008a). Global supply chain risk management. *Journal of Business Logistics*, 29(1), 133-155.
108. Manuj, I. (2008b). Global supply chain risk management strategies. *International Journal of Physical Distribution & Logistics Management*, 38(3), 192.
109. Marsden, P. V., & Campbell, K. E. (1984). Measuring Tie Strength. *Social Forces*, 63(2), 482-501.
110. Martimort, D. (1996). Exclusive Dealing, Common Agency, and Multiprincipals Incentive Theory. *The RAND Journal of Economics*, 27(1), 1-31.
111. McLure Wasko, M., & Faraj, S. (2005). Why Should I Share? Examining Social Capital and Knowledge Contribution in Electronic Networks of Practice. [Article]. *MIS Quarterly*, 29(1), 35-57.
112. Meulbrook, L. (2000, May 9). Total strategies for company-wide risk control. *Financial Times*.
113. Miles, M., & Huberman, M. (1994). *Qualitative data analysis: an expanded sourcebook*. London: Sage Pubn Inc.
114. Milgrom, P., & Roberts, J. (1992). *Economics, Organization and Management*. New Jersey: Prentice Hall Inc.
115. Milton, R., & Mezei, L. (1966). Race and Shared Belief as Factors in Social Choice. *Science*, 151(3707), 167-172.
116. Mitchell, V. W. (1995). Organizational Risk Perception and Reduction: A Literature Review. *British Journal of Management*, 6(2), 115-133.
117. Mol, M. J., van Tulder, R. J. M., & Beije, P. R. (2005). Antecedents and performance consequences of international outsourcing. *International Business Review*, 14(5), 599-617.
118. Moody, P. E. (1992). Customer supplier integration: Why being an excellent customer counts. *Business Horizons*, 35(4), 52-57.
119. Mooi, E. A. (2010). Contract Specificity and Its Performance Implications. *Journal of Marketing*, 74(2), 105-120.

120. Moorman, C., Deshpandé, R., & Zaltman, G. (1993). Factors Affecting Trust in Market Research Relationships. [Article]. *Journal of Marketing*, 57(1), 81-101.
121. Moran, P. (2005). Structural vs. relational embeddedness: Social capital and managerial performance. *Strategic Management Journal*, 26(12), 1129-1151.
122. Morgan, R. M., & Hunt, S. (1999). Relationship-based competitive advantage: The role of relationship marketing in marketing strategy. *Journal of Business Research*, 46(3), 281-290.
123. Morgan, R. M., & Hunt, S. D. (1994). The Commitment-Trust Theory of Relationship Marketing. [Article]. *Journal of Marketing*, 58(3), 20-38.
124. Mortensen, M. H., Freytag, P. V., & Arlbjørn, J. S. (2008). Attractiveness in supply chains: A process and maturity perspective. *International Journal of Physical Distribution and Logistics Management*, 38(10), 799-815.
125. Mullai, A. (2009). Risk Management System – A Conceptual Model. In G. A. Zsidisin & B. Ritchie (Eds.), *Supply Chain Risk* (Vol. 124, pp. 83-101): Springer US.
126. Nahapiet, J., & Ghoshal, S. (1998). Social Capital, Intellectual Capital, and the Organizational Advantage. *The Academy of Management Review*, 23(2), 242-266.
127. Neiger, D., Rotaru, K., & Churilov, L. (2009). Supply chain risk identification with value-focused process engineering. *Journal of operations management*, 27(2), 154-168.
128. Neuman, W. L. (2003). *Social Research Methods: Qualitative and Quantitative Approaches*. Boston: Pearson Education, Inc.
129. Norrman, A. (2004). Ericsson's proactive supply chain risk management approach after a serious sub-supplier accident. *International Journal of Physical Distribution & Logistics Management*, 34(5), 434-456.
130. Olavarrieta, S. (1997). Resource-based theory and strategic logistics research. *International Journal of Physical Distribution & Logistics Management*, 27(9/10), 559-587.
131. Otto, A. (2003). Does supply chain management really pay? Six perspectives to measure the performance of managing a supply chain. *European journal of operational research*, 144(2), 306.
132. Palmatier, R. W., Dant, R. R., Grewal, D., & Evans, K. R. (2006). Factors influencing the effectiveness of relationship marketing: A meta-analysis. *Journal of Marketing*, 70(4), 136-153.

133. Pavlou, S., & Manthou, V. (2008). Identifying and evaluating unexpected events as sources of supply chain risk. *International Journal of Services and Operations Management, 4*, 604-617.
134. Pedersen, E. R., & Andersen, M. (2006). Safeguarding corporate social responsibility (CSR) in global supply chains: how codes of conduct are managed in buyer-supplier relationships. *Journal of Public Affairs, 6*(3-4), 228-240.
135. Pepper, B. (1996). Trends in outsourcing. *Information Security Technical Report, 1*(3), 8-10.
136. Petersen, K. J., Handfield, R. B., Lawson, B., & Cousins, P. D. (2008). Buyer dependency and relational capital formation: The mediating effects of socialization processes and supplier integration. *Journal of Supply Chain Management, 44*(4), 53-65.
137. Pfannenstien, L. L., & Tsai, R. J. (2004). Offshore outsourcing: Current and future effects on American IT industry. *Information Systems Management, 21*(4), 72-80.
138. Pfeffer, J., & Salancik, G. R. (1978). *The external control of organizations: a resource dependence perspective*. New York, NY: Harper & Row.
139. Popper, K. (1968). *The logic of scientific discovery*. New York: Harper & Row.
140. Porter, M. (1980). *Competitive strategy*. New York: Free Press.
141. Porter, M. (1998). *On Competition*. Boston: Harvard Business School Press.
142. Porter, M. (2002). What is strategy? In M. Mazzucato (Ed.), *Strategy for Business*. London: SAGE Publications Ltd.
143. Portes, A. (1998). Social Capital: Its Origins and Applications in Modern Sociology. *Annual Review of Sociology, 24*, 1-24.
144. Pullan, G. A. (1998). Outsourcing strategies - Future trends? [Article]. *Chimia, 52*(6), 269-271.
145. Putnam, R. D. (1993). The prosperous community. *The American prospect, 4*(13), 35-46.
146. Putnam, R. D. (1995a). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1).
147. Putnam, R. D. (1995b). Tuning In, Tuning Out: The Strange Disappearance of Social Capital in America. *PS: Political Science and Politics, 28*(4), 664-683.
148. Ragin, C. (1994). *Constructing social research*. Thousand Oaks, CA: Pine Forge Press.
149. Ramasamy, B., Goh, K. W., & Yeung, M. C. H. (2006). Is Guanxi (relationship) a bridge to knowledge transfer? *Journal of Business Research, 59*(1), 130-139.

150. Ramsay, J., & Wagner, B. A. (2009). Organisational Supplying Behaviour: Understanding supplier needs, wants and preferences. *Journal of Purchasing and Supply Management*, 15(2), 127-138.
151. Reichenbachs, M., Schiele, H., Erben, A., Hoffmann, P., & Schulz, R. (2010). *Risikomanagement im Einkauf - Handbuch und Studienergebnisse*. Munich: h&z Consulting.
152. Reiner, G., Natter, M., & Drechsler, W. (2009). Life cycle profit - Reducing supply risks by integrated demand management. *Technology Analysis and Strategic Management*, 21(5), 653-664.
153. Richards, L. (2010). *Handling qualitative data - a practical guide*: SAGE Publications Ltd.
154. Ridings, C. M., Gefen, D., & Arinze, B. (2002). Some antecedents and effects of trust in virtual communities. *The Journal of Strategic Information Systems*, 11(3-4), 271-295.
155. Rindfleisch, A. (2001). The acquisition and utilization of information in new product alliances: A strength-of-ties perspective. *Journal of Marketing*, 65(2), 1-18.
156. Ritchie, B. (2007). Supply chain risk management and performance: A guiding framework for future development. *International Journal of Operations & Production Management*, 27(3), 303.
157. Rosenthal, E. (1997). Social networks and team performance. *Team performance management*, 3(4), 288-294.
158. Ross, S. A. (1973). The Economic Theory of Agency: The Principal's Problem. *The American Economic Review*, 63(2), 134-139.
159. Rothaermel, F. T., Hitt, M. A., & Jobe, L. A. (2006). Balancing vertical integration and strategic outsourcing: Effects on product portfolio, product success, and firm performance. *Strategic Management Journal*, 27(11), 1033-1056.
160. Royal Society. (1992). *Risk: analysis, perception and management*. London.
161. Sappington, D. E. M. (1991). Incentives in Principal-Agent Relationships. *The Journal of Economic Perspectives*, 5(2), 45-66.
162. Schieffer, A., Isaacs, D., & Gyllenpalm, P. (2004a). The World Café: Part One. *World Business Academy: Transformation*, 18(8), 1-16.
163. Schieffer, A., Isaacs, D., & Gyllenpalm, P. (2004b). The World Café: Part Two. *World Business Academy: Transformation*, 18(9), 1-9.
164. Schiele, H. (2001). *Strategisches Management in Wertschöpfungssystemen*. Wiesbaden: Gabler.

165. Schiele, H., Veldman, J., & Hüttinger, L. (2010). *Supplier Innovativeness and Supplier Pricing: The Role of Preferred Customer Status*. Paper presented at the 19th IPSERA conference in Lappeenranta.
166. Schoenherr, T., Rao Tummala, V. M., & Harrison, T. P. (2008). Assessing supply chain risks with the analytic hierarchy process: Providing decision support for the offshoring decision by a US manufacturing company. *Journal of Purchasing and Supply Management*, 14(2), 100-111.
167. Schwaiger, M., & Meyer, A. (2009). *Theorien und Methoden der Betriebswirtschaft*. Munich: Verlag Franz Vahlen.
168. Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A Social Capital Theory of Career Success. *The Academy of Management Journal*, 44(2), 219-237.
169. Shapiro, S. P. (1987). The Social Control of Impersonal Trust. *The American Journal of Sociology*, 93(3), 623-658.
170. Sharma, A. (1997). Professional as Agent: Knowledge Asymmetry in Agency Exchange. *The Academy of Management Review*, 22(3), 758-798.
171. Silver, R. S. (1993). Conditions of Autonomous Action and Performance. *Administration & Society*, 24(4), 487-511.
172. Singh, P. J., Smith, A., & Sohal, A. S. (2005). Strategic supply chain management issues in the automotive industry: An Australian perspective. *International Journal of Production Research*, 43(16), 3375-3399.
173. Sitkin, S. B., & Pablo, A. L. (1992). Reconceptualizing the Determinants of Risk Behavior. *The Academy of Management Review*, 17(1), 9-38.
174. Soonhong, M., Kim, S. K., & Haozhe, C. (2008). Developing social identity and social capital for supply chain management [Article]. *Journal of Business Logistics*, 29(1), 283-304.
175. Spekman, R. E. (1988). Strategic supplier selection: Understanding long-term buyer relationships. *Business Horizons*, 31(4), 75-81.
176. Steinle, C., & Schiele, H. (2008). Limits to Global Sourcing? Strategic consequences of dependency on international suppliers: Cluster theory, resource-based view and case studies. *Journal of Purchasing and Supply Management*, 14(1), 3-14.
177. Stump, R., & Heide, J. (1996). Controlling supplier opportunism in industrial relationships. *Journal of Marketing Research*, 33(4), 431-441.
178. Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. *Strategic Management Journal*, 18(7), 509-533.

179. Tsai, W. (2000). Social Capital, Strategic Relatedness and the Formation of Intraorganizational Linkages. *Strategic Management Journal*, 21(9), 925-939.
180. Tsai, W., & Ghoshal, S. (1998). Social Capital and Value Creation: The Role of Intrafirm Networks. *The Academy of Management Journal*, 41(4), 464-476.
181. Uzzi, B. (1996). The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review*, 61(4), 674-698.
182. Uzzi, B. (1997). Social Structure and Competition in Interfirm Networks: The Paradox of Embeddedness. *Administrative Science Quarterly*, 42(1), 35-67.
183. Wagner, S. M., & Johnson, J. L. (2004). Configuring and managing strategic supplier portfolios. *Industrial Marketing Management*, 33(8), 717-730.
184. Wang, T. C., & Hsueh, J. T. (2009). *Improvement of the supply risk assessment of foreign suppliers by utilizing fuzzy preference relations*. Paper presented at the International Conference on New Trends in Information and Service Science, NISS, Beijing, 109-112.
185. Wang, Y., Gilland, W., & Tomlin, B. (2010). Mitigating supply risk: Dual sourcing or process improvement? *Manufacturing and Service Operations Management*, 12(3), 489-510.
186. Wathne, K. H. (2004). Relationship Governance in a Supply Chain Network. *Journal of Marketing*, 68(1), 73-89.
187. Wathne, K. H., & Heide, J. (2000). Opportunism in interfirm relationships: Forms, outcomes, and solutions *The Journal of Marketing*, 64(4), 36-51.
188. Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.
189. Williamson, P. J. (1991). Supplier strategy and customer responsiveness: Managing the links. *Business Strategy Review*, 2(2), 75-90.
190. Winter, R. (1992). Moral hazard in insurance contracts. In G. Dionne (Ed.), *Contributions to Insurance Economics* (Vol. 13, pp. 548). Amsterdam: Springer.
191. Wolcott, H. F. (1992). *Posturing in qualitative inquiry*. New York: Academic Press.
192. Wong, Y. H., & Chan, R. Y. K. (1999). Relationship marketing in China: Guanxi, favouritism and adaptation. *Journal of Business Ethics*, 22(2), 107-118.
193. Wu, L.-Y., & Wang, C.-J. (2007). Transforming resources to improve performance of technology-based firms: A Taiwanese Empirical Study. *Journal of Engineering and Technology Management*, 24(3), 251-261.

194. Wu, T. (2006). A model for inbound supply risk analysis. *Computers in industry*, 57(4), 350.
195. Wuyts, S., & Geyskens, I. (2005). The formation of buyer-supplier relationships: Detailed contract drafting and close partner selection. *Journal of Marketing*, 69(4), 103-117.
196. Yang, L., Liu, C., Zhang, Z., & Shi, Y. (2009). *Control of supply risk based on ranking foreign suppliers using pattern search weighted fuzzy comprehensive evaluation*. Paper presented at the International Joint Conference on Computational Sciences and Optimization, CSO, Sanya, Hainan, 613-617.
197. York, D. (2008). Medical tourism: The trend toward outsourcing medical procedures to foreign countries. *Journal of Continuing Education in the Health Professions*, 28(2), 99-102.
198. Zsidisin, G. A. (2003a). A grounded definition of supply risk. *Journal of Purchasing and Supply Management*, 9(5-6), 217-224.
199. Zsidisin, G. A. (2003b). Managerial Perceptions of Supply Risk. *Journal of Supply Chain Management*, 39(1), 14-26.
200. Zsidisin, G. A. (2004). An analysis of supply risk assessment techniques. *International Journal of Physical Distribution & Logistics Management*, 34(5), 397.
201. Zsidisin, G. A., Panelli, A., & Upton, R. (2000). Purchasing organization involvement in risk assessments, contingency plans, and risk management: an exploratory study. *Supply Chain Management: An International Journal*, 5(4), 187-198.