



Linking corporate strategy and supply chain management

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Abstract

Purpose – The purpose of this paper is to research the nature of supply chain strategy (SCS). It represents one stage of an on-going research initiative aimed at providing a framework for systematic understanding of the linkages between corporate strategy (CS) making and supply chain management (SCM).

Design/methodology/approach – The paper explored the theory and literature related to strategic management and SCM. Four generic levels of strategy were linked to SCM, and synthesized into an explanatory SCS-framework. Propositions for future research were presented based on the framework.

Findings – The paper shows that most of the literature on SCS relates to the functional level. Largely undiscovered are the links between corporate and business unit strategies with supply chain strategies and capabilities, especially on the network level (NL).

Practical implications – A fit between CS and SCM positively impacts the performance of a firm. The framework developed can be used by managers to assist in thinking through possibilities to link supply chain capabilities with the CS making processes.

Originality/value – By distinguishing between functional, business, corporate, and NLS, the paper provides a framework for future research to enhance knowledge related to supply chain strategies and capabilities.

Keywords Supply chain management, Strategic management, Organizational performance, Competitive advantage, Corporate strategy

Paper type General review

Introduction

Porter (1996, p. 64) states that “[...] the essence of strategy is in the activities – choosing to perform activities differently or to perform different activities than rivals”. But what is then the essence of a supply chain strategy (SCS) – especially when looking at a typical situation in business practice? Here, we often find the following situation pointed out by Presutti and Mawhinney (2007, p. 34): there is a disconnection:

[...] between what’s driving supply chain executives and what’s driving their corporate bosses – a misalignment of strategic vision and execution. Overcoming that disconnect can present an opportunity for supply chain managers. At the same time, supply chain professionals will need to develop a new set of strategic managerial competencies if they are to succeed in this endeavour.

From this common statement, two points emerge:

- (1) a missing link between corporate and SCS; and
- (2) a lack of strategic orientation and capabilities by supply chain managers.

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On one side, it is often unclear what corporate decision makers (corporate bosses) really intend. It is questionable to which levels of the firm do they refer to strategically, especially when companies are diversified and have more than one business unit. For example, if they plan cost reduction programs for the whole company at the corporate level (CL), they would like to see cross-sectional and business unit overlapping initiatives such as collaborative sourcing. In doing so, supplier bases are often consolidated and the purchased components are standardized as far as possible. In such a case, corporate (strategy) alignments influence supply chain activities outlines on a network level (NL) (like the consolidation of the supplier base), the business unit level (BuL) (like the standardization of components) as well as the functional level (like the sourcing and purchasing process itself).

On the other side, what do strategic competencies of supply chain managers look like? If they are to be really strategic in nature, SCS is more than a maximum achievement of logistics efficiency or the emphasis on the ability to respond quickly to changing customer needs, outbound delivery and support (Autry *et al.*, 2008). They also have to attend to market positioning – in the sense of the market-based view (MBV) – as supply chains are configured according to demand characteristics for the products one's company supplies (Fisher, 1997). And, functions like purchasing, distribution or logistics should then operate more strategically. For example, strategic influences of resources and capabilities in the operative supply chain on marketing and promotion activities have to be considered in light of the resource-based view (RBV) (Barney, 1991). Furthermore, the relationships to suppliers, logistics services providers and customers as well as other supply chain partners should then be seen as a potential competitive advantage in sense of the relational-based view (RelBV) (Dyer and Singh, 1998) or the industrial marketing and purchasing group approach (Håkansson, 1982).

Therefore, supply chain management (SCM) is more and more portrayed as a strategic level concept, as the Council of Supply Chain Management Professionals (CSCMP) and others pointed out. In this way, Mentzer *et al.* (2001, p. 18) consider SCM to be:

[...] the systemic, strategic coordination of the traditional business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole.

Stank *et al.* (2005, p. 27) added: “[...] the objective of SCM is creation of strategic differential advantage obtained by the total value delivered to end-customers”.

The strategic role of SCM can be considered further knowledge in the research domain, given the concurrent rising relevance of extensive inter-firm networks and cross-sectional business activities. At the same time, functioning and interdependence between the strategic potential of SCM and the realm of corporate and business strategies does not seem to be broadly examined in existing literature. Thus, SCS still needs a coherent framework interacting with different firm strategies. In this paper, I assume that SCM must be aligned with firm strategies to contribute to a sustainable competitive advantage. Like Skinner (1969) who advances manufacturing as a missing link in corporate strategy (CS), I try to show the role and place of SCS in the hierarchy of strategy. As “controversial choices” are an essence of strategy in general (Karnani, 2008), I suggest that linkages with other strategic issues are the essence of SCS: particularly due to the cross-sectional and integrating nature of SCM. Thus, the

development and execution of SCS require bridging different views and areas within and between firms accompanied by several strategizing interrelationships.

The methodology applied is mostly congruent with the conceptual research approach developed by Punch (2005) as well as Meredith (1993). In such a pre-empirical stage, the explorative topic is determined. I use the terms “conceptual” and “explorative” for creatively combining information from different theoretical and practical sources in order to formulate propositions that will subsequently contribute to the development of a theory. The paper presents an analysis of existing research and a conceptual framework will emerge from it. But no data will be collected nor will the research propositions be tested (theory-building rather than theory-testing-research). Having decided on the adoption of a conceptual and theory-building-approach in the fields of corporate and SCS, I developed the research question accordingly:

RQ. How do CS and SCM interact in conjoint interrelationships in order to generate performance enhancements?

The research, in the process, is mainly influenced by the different strategy levels provided by Huff *et al.* (2008). The ultimate purpose of this paper is to provide a theoretical foundation to enhance the body of knowledge related to integrating SCM with firm strategies.

In order to answer the *RQ*, the paper is organized as follows: first, I give the foundations of firm and SCS within different levels of interaction. Second, a literature review is employed to obtain a comprehensive overview of the current field of SCS and its main research gaps. Third, discussion on the existing gaps in literature paves the way for the subsequent theory building in the form of a conceptual framework. Fourth, four linkages of corporate and SCS are discussed. The discussion concludes with propositions for future research. Finally, a short conclusion and an outlook for future research are given.

1. Background

1.1 Firm strategy

Strategy matters (Bowman and Helfat, 2001)! Before concretizing SCS, I briefly look at some strategic aspects in general. In a broader sense, factors can be described as strategic if they lead to creation and exploitation of potentials for success or significantly influence the development of the firm (Grant, 2002). Without strategies, firms' short-term decisions will conflict with their long-term goals (Brown and Blackmon, 2005). For this, strategic management theory distinguishes different levels of strategy where strategy-making process occurs and competitive advantage is contributed (Huff *et al.*, 2008).

The four generic degrees of firm strategy belong to the network, corporate, business and functional level:

- (1) Network strategy (NS) concerns the inter-organizational dimension (or NL) at which the firm interacts with other companies. According to Baraldi (2008), a NS consists of structural (defining relationship contents, forming network structures and evaluating goal matching with the network) as well as dynamic components (combining resources in interacting via inter-organizational routines and joint projects).

- (2) CS addresses industry attractiveness and deals with the ways in which a corporation manages a set of businesses together (Grant, 2002). Some key tasks of CS are to identify the industries within which the business units of the organization will compete and to allocate corporate resources to these divisions (Bowman and Helfat, 2001).
- (3) Business unit strategy (BuS) focuses on competitive advantage, i.e. how a company should compete (Grant, 2002; Hambrick, 1980). As mentioned by Thompson *et al.* (2005) and Porter (2004), a firm, or specifically the strategic business units, zeros in on the ability to perform interrelated economic activities at a collectively lower cost than rivals, or to perform some activities in unique ways that create end-customer value.
- (4) Functional strategies (FSs) concern either operational activities, such as purchasing, production, distribution and logistics, or supporting activities, such as human resources or information technology (IT). In general, FSs are aligned with the strategic orientation of a business unit.

On the one hand, the focus and objective of strategy making (strategizing) varies between the different levels, but on the other hand each level can influence the others (interrelationships). The strategic fit between internal aspects of an organization (a network, firm, or business unit) and the external environment determines competitive advantage. The MBV (or alternatively the industrial organization economics-based contribution) and the RBV of strategy provide alternate attempts to explain how to achieve this fit. The continuing debate in literature about the relative importance of the market vs the capabilities of the company itself has centred on issues of business rather than CS (Brown and Blackmon, 2005). RBV, as well as dynamic capabilities (Teece *et al.*, 1997), and entrepreneurship/leadership (Bowman and Helfat, 2001), however, contain a role for CS based on utilization of common resources by related businesses within a firm (Peteraf, 1993). In both the MBV and RBV, FSs should be consistent with corporate and business-level strategies (Kotha and Orne, 1989). FSs, for their part influence the success of strategic initiatives including innovative processes and technologies, new products, or human resources (Brown and Blackmon, 2005). Finally, in the context of inter-organizational settings the RelBV of strategy (Dyer and Singh, 1998) illustrates the importance of inter-organizational business relationships itself as a competitive advantage. It aims mostly at the NL. Hence, I view the RBV, MBV, and RelBV as complementary rather than conflicting perspectives and I draw on them in building my arguments.

I now turn to the term “SCS” which is relatively new in business sciences.

1.2 Supply chain strategy

In order to outline the foundation of SCS, I match the SCM definition provided by CSCMP with the strategy views. Here, SCS is, for example, linked via the MBV to market requirements. These are critical to SCS because order-qualifying and order-winning criteria derive orders from customers (Stank *et al.*, 2005). Furthermore, aligning market requirements with supply chain capabilities through SCS creates a competitive advantage. Supply chain capabilities in the sense of the RBV (and its dynamic advancements) describe what a “supply chain operation” and its knowledge development – in a functional sense – can do better than its competitors (Hult *et al.*, 2007). Finally, the obtained network

relationships themselves become a source of competitive advantage for the supply chain as a whole – or precisely a certain supply chain section – as the ReIBV underlines (Dyer and Singh, 1998).

The outline indicates that SCS can vary in its focus in a similar way to the term “strategy” that has a bidirectional effect to the four levels of strategy identified earlier. The differentiation can then help us to specify the meaning of SCS. Therefore, I distinguish supply chain strategies at the network, corporate, business, and functional level:

- (1) *Conducting SCS at the NL (SCS-NL)*: the object for analysis is not the single firm but a specific sector of a supply chain – a network – with different companies (Rodrigues *et al.*, 2004). So, before the SCS can be designed on the NL, the respective sector must be defined; and the involved companies must be aware, that they belong to that specific network. The established supply chain sector can thus be interpreted as a “quasi-integrated” firm (Blois, 1972). This step allows a “harmonization” of the actors’ SCS on the NL. But with such inter-organizational alignments, the question arises which strategy component should companies keep and which ones should be adapted and synchronized. As Defee and Stank (2005, p. 33) pointed out: “This does not imply that each firm’s strategy needs to be the same.”. It can be assumed that a quasi-integrated (network) firm underlies a partial integration combining economically independent activities in the up- and downstream supply chain without causing a complete legal consolidation. Ideally, the affiliated firms act like one company as long as they belong to the specific network.
- (2) *SCS at the CL (SCS-CL)* mainly refers to companies with more than one business unit. The SCS-CL demonstrates how synergy effects – and thus value – can be created through the combination of several business areas, the coordination of all corporate activities and the interaction with important stakeholders (Bowman and Ambrosini, 2007). Hence, the number of different supply chains depends on the diversification level of business area portfolios. It becomes crucial to identify whether (and which) processes and resources should be assembled into one supply chain (e.g. on the supply side) regardless of their affiliation to the value creation and which ones can be operated separately (e.g. at the demand side). Whether centralized or decentralized corporate planning offers parenting advantages also depends on the business areas (Kreipl and Pinedo, 2004). The more similar the business areas are, the sooner a centralized control is sought in order to benefit from economies of scale (Stank *et al.*, 2005). The similarity can consist of actions in the market (especially products, customers or competition), resources or regions.
- (3) *SCS at the BuL (SCS-BuL)* largely concerns customer groups (e.g. regarding region, amount, structure, etc.), the product (e.g. whether it is functional or innovative) as well as tactics of market cultivation (e.g. regarding offensive or defensive approaches). For example, the degree and importance of the supply chain configuration depend on the number and demands of customers as well as on its regional distribution (Dawande *et al.*, 2006). The more customers the company has the more diverse the requirements of the buying group become. According to Fisher (1997), a cost efficient supply chain is needed with functional products while innovative products imply a responsive supply chain.

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- (4) SCS at the functional level (SCS-FL) stress strategic arrangements in procurement, production, distribution and logistics as well as other functions like marketing, IT or research and development (Schnetzler *et al.*, 2007). Besides a vertical alignment of all the functional areas with SCS-BuL and SCS-CL, the strategic activities on the functional area must be aligned horizontally among each other (Wunder, 2005). A common definition of SCS-FL is given by Chopra and Meindl (2004, p. 29). They describe SCS as follows:

A supply chain strategy determines the nature of procurement of raw materials, transportation of materials to and from the company, manufacture of the product or operation to provide the service, and distribution of the product to the customer, along with any follow-up service. From a value chain perspective, supply chain strategy specifies what operations, distribution, and service will try to do particularly well.

Beyond these theoretical foundations, it is interesting to examine whether current research covers the given subsumptions and whether and how to link the different forms of SCS with the levels of firm strategy. The following literature review tries to shed light on this topic.

2. Current status of research

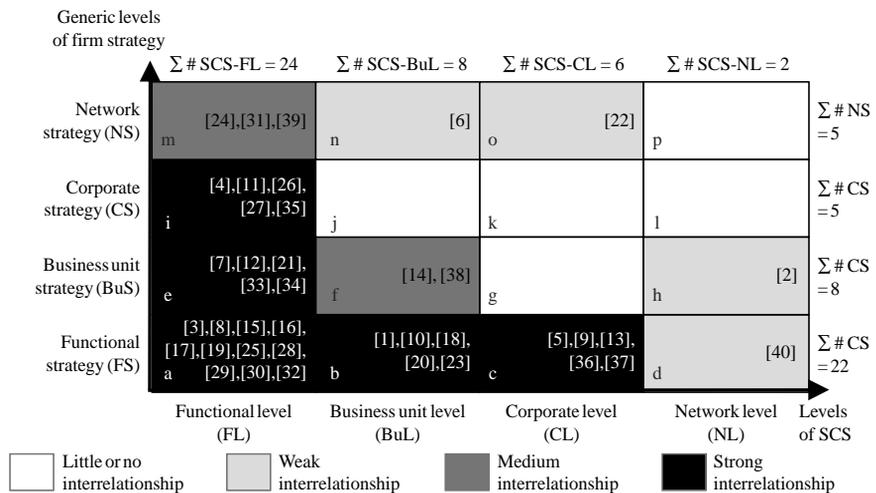
2.1 Literature review

In order to determine the current state of research in the field of SCS, a comprehensive literature review shall now be conducted. Particular attention will be paid to interconnections in literature between SCS and the four generic levels of strategy. The literature review combines the established understanding of the generic levels of strategy with the core functions of SCM. For the placement of the reviewed literature, the research adopts the concept of the Supply Chain Operations Reference (SCOR) model at the functional level of SCS. The SCOR framework contains five business processes: plan, source, make, deliver, and return. It is a useful tool to help structure publications in the literature review, which focus on SCS-FL. Congruence is given, as the term source corresponds to procurement, make to manufacture/production and deliver to distribution (Chopra and Meindl, 2004; Christopher, 2005). Additionally, the field “enabling” was expanded to further include “logistics”, i.e. activities in the realm of supply chain bound logistics management, as well as e-business and IT-specific solutions.

The literature search process concentrated solely on articles published in scientific and business journals. Therefore, first the desired key terms needed to be chosen with the objective of obtaining coverage of all the specified focus fields. Then, I divided the selected keywords into two search groups: the first group consists of terms covering the specific activities at the functional level, including the processes presented by the SCOR model (Christopher, 2005; Lambert *et al.*, 2005); the second group of keywords includes more general terms in the field of SCS with the intention of achieving hits on the business, corporate and NLS. The former narrow keywords belong to “plan”, “source/procurement”, “make/manufacturing”, “deliver/distribution” as well as “logistics/supply chain”. The latter wider keywords were: “SCS”, “SCM strategy”, “business strategy and supply chain”, “corporate strategy and supply chain”, “network and supply chain”, as well as “NS”. Furthermore, I conducted the search only in business and scientific journals chosen in the predefinition of the literature review. Priority is given to academic journals with a high grading, as well as academic journals with a

grading A and B, based on the journal ranking system “VHB-Jourqual 2 year 2008” of the German Academic Association for Business Research (VHB) (www.v-h-b.de). The terms were entered into the EBSCO host search engine (www.ebscohost.com), while limiting the search on titles, abstracts as well as keywords to the priority journals. Eight peer-reviewed academic journals were selected. The journals are: *Academy of Management Journal*, *Management Science*, *Production and Operations Management*, *Strategic Management Journal*, *Journal of Industrial Economics*, *International Journal of Physical Distribution & Logistics Management*, *International Journal of Production Economics*, *Journal of Business Logistics*, and *Journal of Supply Chain Management*.

In a further stage of the literature search, the same keywords were entered again, one at a time, without limitation to the nine journals listed above, and in combination with the term “supply chain”. This search was conducted within the strict limitations of the terms and articles published in journals below the “VHB-Jourqual 2 rank” of B were only included if they were considered to be vital to the current understanding of SCS. This consideration is significant in obtaining a comprehensive selection of articles, as some leading SCS researchers, such as Christopher (1994, 2005), Fisher (1997), and Lockamy (2004), have published works in journals solely ranked as C or D by “VHB-Jourqual 2”. Owing to the relatively short history and dynamic of the field of SCM and SCS, the search was limited to articles published between 1997 and 2009. In total, 40 papers were selected (Figure 1).



Note: Σ #: number of papers per row and column

Sources: Reviewed articles: Aitken *et al.* (2003), Blankenburg Holm *et al.* (1999), Boone *et al.* (2007), Cavinato (1999), Christopher and Ryals (1999), Christopher *et al.* (2006), David *et al.* (2002), Dawande *et al.* (2006), Demeter *et al.* (2006), Fisher (1997), Frohlich and Westbrook (2001), Goldsby *et al.* (2006), Harrison and New (2002), Hult *et al.* (2007), Hult *et al.* (2004), Johnson and Whang (2002), Kreipl and Pinedo (2004), Lee (2002), Lee *et al.* (2004), Li and O’Brian (2001), Lockamy (2004), Lorenzoni and Lipparini (1999), Mason-Jones *et al.* (2000), McAfee *et al.* (2002), Mollenkopf *et al.* (2007), Nollet *et al.* (2005), Ogden *et al.* (2005), Pagh and Cooper (1998), Paulraj and Chen (2007), Schnetzler *et al.* (2007), Sebastiao and Golcic (2008), Sengupta *et al.* (2006), Sodhi (2003), Stephens and Wright (2002), Stonebraker and Afifi (2004), Stuart (1997), Tamas (2000), Vickery *et al.* (2003), Wisner (2003), Yee and Platts (2006)

Figure 1.
Spread of the SCS literature

2.2 Results

The literature review presents a range of contributions in the field of SCS at its various levels of influence. Valuable journal articles could be located and reviewed for all strategy levels. The levels along which the contributions are structured in the literature review are located on the horizontal *X*-axis, whilst the organizational level influenced by the SCS is placed on the vertical *Y*-axis. The result of the literature review is shown in Figure 1.

The origins and foundation of SCM as a functional activity are reflected by the large body of literature presented at that level (Boone *et al.*, 2007; Dawande *et al.*, 2006; Schnetzler *et al.*, 2007; Pagh and Cooper, 1998). Indeed, the detail and extent of scientific and business research in the field of SCS are still greatest regarding the examination of the main processes in supply chains, such as “plan” (Sodhi, 2003; Kreipl and Pinedo, 2004; Lee *et al.*, 2004), “source” (Nollet *et al.*, 2005; David *et al.*, 2002; Ogden *et al.*, 2005), “make” (Lockamy, 2004; Brown and Blackmon, 2005; Sengupta *et al.*, 2006), “deliver” (Stephens and Wright, 2002) and “return” (Mollenkopf *et al.*, 2007) as well as enabling activities especially “logistics” (Cavinato, 1999) and “IT” (Johnson and Whang, 2002; Paulraj and Chen, 2007). Similarly, SCS research at the functional, business, and CL invariably shows a strong interrelationship with the level of a firm’s FS. An example is McAfee *et al.* (2002) who concluded that a failure to adequately address the strategic fit between the different levels can lead to reduced optimization in the effective functioning of the supply chain. Another strong alignment is presented by Stonebraker and Afifi (2004) who stated that it is appropriate to aggressively integrate a supply chain in particular circumstances. The strong interconnections between SCS-FL and the four levels of firm strategy are shown in fields *a*, *e*, and *i* as well as in the medium one in field *m* of Figure 1.

Recognizing the increasing importance of the supply chain as a driver for competitiveness, some contributions (Fisher, 1997; Lee, 2002; Mason-Jones *et al.*, 2000) have been made linking supply chain decisions and activities (at the BuL) with product management decisions at the business strategy level (strong interrelationship in field *b*). In such a bottom-up perspective, the increasing influence of SCS on product competitive strategy does not signify that SCS itself is elevated: it normally remains a FS from a single firm perspective, yet with increasing influence. Top-down, SCS topics discussed at the business level such as “a culture of competitiveness and knowledge development” (Hult *et al.*, 2007) or on “customer service and financial performance” (Vickery *et al.*, 2003) are clearly deemed to have a direct influence on a business unit’s core activities (see field *f*). A further notable link at the business level is given between the low degree of influence that SCS has on the NL, shown in field *n*. This interconnection is, for example, driven by a company’s primary sourcing activity that connects the firm with the network of suppliers; the strategic focus and emphasis of sourcing (quality, costs, lead time, long versus short-term contracts) is largely determined by competitive strategy, which in turn influences a firm’s buyer-supplier relationships at the NL (Christopher *et al.*, 2006).

Contributions discussed in the domain of SCS from a corporate perspective concern the issue of strategic alignment in companies with more than one business unit. Contributions present valuable research discussing strategy formulation and execution processes that aim at building coherence between CS and all the firm-level strategies underlying it (Tamas, 2000; Demeter *et al.*, 2006; Harrison and New, 2002; Stuart, 1997). The strong interrelationship with the functional-oriented SCOR processes is apparent in alignment

discussions, particularly sourcing and distribution (field *c*). In a second recent, yet growing, area of research (Lorenzoni and Lippardini, 1999), inter-organizational supply chain capabilities at the CL are addressed, linking them to the level of the inter-firm network (depicted in the still weak yet but strengthening interrelationship in field *o*).

SCS topics examined at the NL usually deal with the challenges of managing the inter-organizational supply chain itself. First weak links to other strategy levels are given by the mutual interconnections with the functional (Yee and Platts, 2006) and BuL (Blankenburg Holm *et al.*, 1999) (weak interrelationship in fields *d* and *h*). One reason for the weak interconnections between the network and other levels is that only two reviewed articles could be placed in this category. Although articles often use the term “network” in their topical description, the use and understanding of the word can vary significantly. Additionally to supply chain (networks), they also cover constructs such as virtual networks or network alliances. One must be careful in defining network strategies when applied across groups of companies. For a while literature did not distinguish between different forms of inter-organizational paradigm (e.g. supply chain, extended enterprise or virtual enterprise), and consequently a general label “NS” was adopted for all of these approaches, as they were considered similar in orientation. This state of affairs seems to be past, reviewed papers represent a situation that is beginning to distinguish between different types of inter-organizational networks – one of them is a supply chain (network). Thus, we can no longer use SCS for all of these inter-organizational forms; the most we can say is that they are similar in orientation, but that one form of inter-organizational SCS is different from the other.

2.3 Research gaps

The identification, placement, and review of articles as well as the mapping of the interconnections does point towards three major research gaps:

- (1) *Research gap no. 1.* Although the effects of product characteristics and competitive supply chains on the functional-oriented SCOR processes are discussed in detail, the influence of competitive supply chain strategies (such as lean, agile and leagile) on strategic questions on the CL and vice versa remains to be examined (specifically field *j*). A question that could be posed in this respect is whether core competencies in a particular type of supply chain configuration may influence corporate diversification strategies.
- (2) *Research gap no. 2.* In addition, the link of business and CS at one side and SCS-CL is almost omitted entirely, establishing a second research gap (fields *g* and *k*). Studies focus on SCS to CS alignment, with little regard for the business level in between; discussions of sourcing or purchasing emphasize their strategic role, chiefly focusing on minimising a cost driver and maintaining efficiency, yet with little consideration for sourcing strategies and supplier networks as competitive resources. If a firm or even a network wishes to pursue paths for growth or market expansion, corporate strategizing should definitely take competitive product and supply chain strategizing into account.
- (3) *Research gap no. 3.* Third, a research gap can be identified between SCS-NL and the CL of a firm as well as the NL itself. Although CL contributions make a bottom-up connection to the NL (Lorenzoni and Lippardini, 1999), only a few NL contributions appear to be more concerned with competitive and functional

capabilities than key CL concerns (as for instance growth strategies and industry attractiveness assessments) or major NL issues (as for instance the areas and degree of harmonization between the SCS of the affiliated firms). This research gap depicted in fields l and p is perhaps not as clearly defined as in the two previous instances, yet is consistent with the relatively small number of publications focusing the alignment of corporate and NS as well as forming and implementing of SCS on the NL.

In a first conclusion, SCS appears to be still firmly rooted in its role as a key FS linking the business level with the operational primary activities; the farther the fields of interaction are placed from the functional core processes, the lower the degree of cohesion in the interrelationship tends to be. Furthermore, it is reached and influenced as a strategic factor of competitiveness is increasing, congruent with the expanding role of SCM as discussed in several of the reviewed publications (Wisner, 2003; Hult *et al.*, 2007). This understanding is concordant with Stank *et al.* (2005) who underline the extended importance of SCS as a horizontal link between several FSs and in the vertical interplay between the various hierarchical levels of strategic planning. As a consequence, Lockamy (2004) also views SCS as being “independent” from a specific hierarchical level of firm strategy. Finally, it can be stated that the linkages between CS and SCM are still largely undiscovered. Hence, SCS as well as the supply chains’ capabilities should be involved in the CS formulation and implementation processes not only from a single-company perspective, but also with respect to the NL.

The next section will draw upon the wealth of research and insights presented in the current research sources when examining the specific alignment between CS and SCM in a framework.

3. Strategizing framework

As is apparent in the literature review, the number and characteristics of the interfaces and exchange processes between firm-level strategy and SCS are manifold. As shown in Figure 1, a minimum of 16 links between the generic firm-level and supply chain strategies are achievable. Note that there are several interdependencies between the firm-level strategies themselves (implied by the interlacing). A conceptual model designed to structure a coherent analysis in this domain must therefore be integrative and combining, yet also sufficiently detailed in its focus and connection to the underlying theory.

Within the market-led MBV a firm gains competitive advantage through identifying external opportunities and then aligning the company with these opportunities (Thomas and Pollock, 1999). But a strategy based only on the structure-conduct-performance argumentation will probably lead to a “misfit”, especially when the external environments are increasingly dynamic. The RBV – following the resource-conduct-performance argumentation – emphasizes the importance of resources and capabilities when competitive advantage and performance are based on dynamic flexibility. But inevitably, a single resource and capability orientation also fails the market requirements (Verdin and Williamson, 1994). SCM underlines the importance of the inter-organizational relationships as well as network structures and governance forms (Dyer and Singh, 1998). The RelBV follows, therefore, some sort of a relationship-conduct-performance argumentation. Thus, the conceptual model must consider simultaneously the external supply chain environment and the supply chain capabilities.

In agreement with the generic levels of strategy (Huff *et al.*, 2008), a framework is constructed by connecting CS and SCS (Figure 2). It schematically extends the approach developed by Stank *et al.* (2005) by adding a NL and differentiating the functional level within the SCOR classification. Especially within the NL, the framework addresses the members of the supply chain, although the other linkages should be viewed from a single-company perspective.

At least four distinct linkages interrelate CS with SCS and capabilities. These four interrelationships can be mapped with arrows leading from CS (or alternatively from the NS, BuS, or FS levels) to the four levels on which SCS has been found to have a direct or an indirect influence on the performance of the affiliated firms in the supply chain. The linkages are always a two-way connection due to the two ways of viewing a precedence relationship between CS and SCS. Should supply chains' capabilities be adjusted to achieve corporate objectives, or should corporate objectives be confined to what SCM is capable of doing? Furthermore, within the framework, different hierarchies of strategy alignments are defined: vertical alignments between the different hierarchical levels as well as horizontal alignments among the different level themselves.

The first plausible way of interaction Linkage 1 leads via the field of inter-organizational NS, increasingly a key element in SCM strategizing itself (network-driven interrelationships). It can therefore be justly assumed that by setting the outline for network creation and coordination, CS can markedly influence SCS along this link and vice versa.

The second alignment in establishing an interrelationship is Linkage 2, where decisions and actions in the realm of a firm's CS directly impact decision making in SCS (direct corporate interrelationships) and vice versa.

Third, by laying foundations in the choice of industries and businesses, CS determines the playing field of competitive strategy at the business level (Linkage 3) and thereby could be seen to concurrently and indirectly outline the requirements of SCM (competitive-based interrelationships). But reversely, the available supply chain capabilities can limit the fulfilment of market requirements.

The fourth linkage concerns the interaction between corporate and SCS through the configuration of strategies at the functional level. The influence can be exerted indirectly via strategizing processes at the business level, i.e. competitive decisions that outline FSs such as sourcing, manufacturing, distribution or logistics (indirect functional interrelationships). However, a direct link between CS and SCS-FL is also applicable, especially if a strong concern for key functional processes can be identified at the CL and vice versa (direct functional interrelationships).

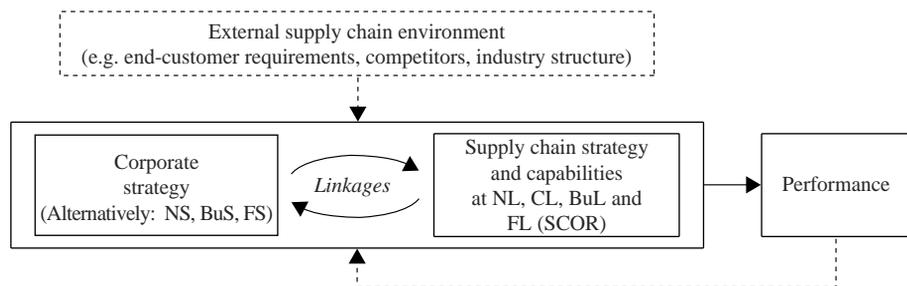


Figure 2.
General framework
of the strategizing
interrelationships in SCM

These four linkages are primarily distinguished to impact SCS as a whole. Nevertheless, the framework provides the means to differentiate between which levels of SCS are most strongly influenced in any given interaction process. This is necessary in order to ensure that the linkages do not represent decision-making and execution processes in the sense of a strategy process (Karnani, 2008).

I will now discuss how the four interrelationships function and which levels of SCS they tend to impact.

4. Discussion

The strategic interrelationships between CS and SCS shall be explained in greater detail. Where applicable, theoretical insight is assessed regarding their practical relevance in a business setting.

4.1 Linkage 1. Network-driven interrelationships

Linkage 1 represents exchanges in strategizing between the fields of CS and SCS via the NL. This connection is justified in the sense that SCM itself commonly operates in inter-organizational settings. As part of their core function, corporate strategists make decisions regarding configuration of businesses within the firm that affect the NL. From a single firm perspective, strategizing will be concerned with the positioning of the company within one or several networks. From the perspective of a focal hub firm, for example, strategizing at both corporate and the NL will determine the creation and configuration of strategy for a broader network and its embedded key firms (key suppliers, key customers, or key service providers). It can therefore be established that due to the competitive drivers, the interrelationship between CS and SCS via strategizing at the NL must become more importance.

As far as SCS is concerned, the network-driven interrelationship appears to primarily influence the network and the functional level and vice versa. This insight can be justified, given that corporate driven determinants of NS will mainly concern network positioning and integration. First, network positioning, lies in the realm of SCS-NL, in the selection of the supply chain echelons, relevant partners, and managed process links as well as the strategic development of the defined network itself. Second, the specification of integration activities will require an increased inter-organizational coordination of functional processes of the determined supply chain members. For example, in supply chains controlled by a focal hub firm, functional coordination might particularly concern key activities such as the joint pooling of resources, the integrated planning process and combined real time order management systems. The joint efforts in a particular supply chain echelon leads to network performance that must be quantified and set off between the affiliated firms (Hofmann, 2006). This research into the establishment of strategizing processes and synchronization is in line with the research gap (no. 3) presented by fields *l* and *p* in Figure 1.

Should the nature of competition continue to develop towards rivalry between supply chains rather than single firms, the importance and proactive management of the network-driven interrelationship is set to shift into a more predominant focus in inter-organizational strategizing processes. Superior performance is achievable through the management of the network-driven interrelationship as well as the joint consideration of resources and capabilities, when positioning in the single company perspective is

iteratively matched with configuration from the network perspective. The relationship between CS and SCS-NL is presented as proposition *RPI*:

- RP1.* A fit between CS and SCS-NL is positively associated with the (network) performance of a firm.
- RP1a.* The higher the degree of supply chain-orientation of CS, the greater the level of integration with key suppliers, key customers and key service providers, and the more likely is the presence of joint strategies at the inter-organizational level.
- RP1b.* Firms with clearly defined supply chain capabilities to integrate key suppliers, key customers and key service providers will achieve closer strategic alignment at the CL than firms that do not.

4.2 Linkage 2. Direct corporate interrelationships

Linkage 2 is termed the direct corporate interrelationship, as it addresses the direct interaction between CS and SCS-CL. CS may have a direct impact on SCS, given its core activities of configuring and coordinating the different business units of the firm. SCS can be affected on several dimensions, such as the level of consistency in supply chain configuration throughout the firm, a factor that is directly dependent on the relative level of diversity between the business units selected and defined by CS at the level of a firm's top management. It seems to be obvious that an increased diversity between business units (if a company has several) will indeed require a firm to run several diverse supply chains (Tamas, 2000), necessitating a significantly increased complexity for SCM. From this perspective, CS decisions regarding business configuration could impact SCS and capabilities on all four identified levels, foremost the business and functional ones. Functional SCS in a company with diverse businesses will be characterised by integration difficulties and a high variety of SCOR processes, making the achievement of corporate synergies and coordination challenging. This could occur in unrelated conglomerates or when a firm's CS is keyed to diversification with little relation to the existing businesses (Bowman and Helfat, 2001). In an alternative focus, CS may pinpoint a key process at the functional level of SCS as a strategic priority, as has commonly been the case with the corporate sourcing function with the advancement of global supply initiatives.

The interrelationship also influences the degree of strategic fit between SCS and the units at the business level between themselves. Alternately, if a firm has established itself as a leader in a particular market and runs a competitive advantage based on a lean, agile, or leagile supply chain, this capability set-up could in a reverse impact process influence the direction of CS (Goldsby *et al.*, 2006). Therefore, it is plausible that this linkage is indeed a two-way interactive process and that strategizing impulses originating in the supply chain could streamline the option space for a firms strategizing at the CL. In order to establish such a strategizing relationship, an adequate performance measurement system must be implemented (Hofmann and Locker, 2009). This research into the influence of SCS at the business level on CS also addresses the Research gap no. 1, represented by field *j* in Figure 1. Furthermore, the NL of SCS may also be influenced in the direct interrelationship, if the configuration of different businesses substantiates modifications in the inter-organizational relations to suppliers, customers and service providers within which the firm operates.

The first linkage of CS and SCS establishes the direct relationship between the two fields, within which influence is exerted top-down in a common iteration concerning both strategy process and content. The reverse exertion of influence cannot be neglected, given that pre-existing supply chain configurations and capabilities establishing a competitive advantage are able to limit or focus the scope of CS, for instance regarding the issue of relatedness when pursuing growth through diversification. A strategic fit in the interrelationship is therefore presumed to positively affect firm performance. I present the linkage between CS and SCS-CL as proposition *RP2*:

- RP2.* A fit between CS and SCS-CL is positively associated with the (corporate) performance of a firm.
- RP2a.* The higher the degree of supply chain-orientation of CS, the greater the level of integration between the different supply chains of individual business units, and the more likely the presence of joint as well as process-oriented strategies between the supply chains of the different business levels.
- RP2b.* Firms with clearly defined supply chain capabilities to integrate the different supply chains of the business units will achieve closer strategic alignment at the CL than firms that do not.

4.3 Linkage 3. Competitive-based interrelationships

Linkage 3 describes a strategizing link via the field of business strategy. The interconnection in SCS is frequent between the business and the functional level, given the close interrelatedness of the two fields in questions of fostering competitiveness. This interconnection can be extended to the CL, as factors like the corporate assessment of industry attractiveness, the configuration of the business portfolio to enhance strategic fit and the determination of the key direction of diversification will directly influence the scope of competitive strategy and in turn, outline the scope and performance in the supply chain. As pointed out by Porter (1996), this level drives the sustainability of a corporation's strategic positioning. In addition, the necessity of matching corporate positioning, competitive product selection and supply chain configuration is outlined in detail by Fisher (1997), who links responsive supply chains to innovative products and efficient supply chains to functional products. Therefore, similar to the analysis of the direct corporate interrelationship, the field of business strategy constitutes a relevant interface where corporate and SCS inputs meet in both bottom-up and top-down interactive strategizing processes.

The theoretical functioning of the competitive-based interrelationship is apparent in the realm of the CS option space of diversification. A corporation pursuing a competitive advantage based on distinct capabilities of its corporate centre will in general be better able to pursue a path of less- or unrelated-diversification than a firm that either strives for a competitive advantage at the business level or operates within an extended network. This approach can be termed as a management of a portfolio of businesses, whereas the pursuit of mutual strategic enforcement and integrative coordination of businesses will entail a higher level of relatedness in diversification transactions (Hitt *et al.*, 2003; De Wit and Meyer, 2004). The striving for coordination and fit at the business level is applicable to the same extent to SCS as an integrating cross-functional process connecting a firm's primary activities to the product or market focused business units.

The competitive-based interrelationship between corporate and SCS manifests itself in an indirect way. The main levels of SCS and capabilities affected by the competitive-based interrelationship can provide valuable inputs to CS reversely on the same path. It can be determined on the business and functional level as well as – to a lesser extent – the NL. A question remains whether SCS is able to gain a higher level of attention at the CL through intense iterative processes along the third linkage. This issue is inherent in the Research gap no. 2 identified in the literature review (fields *g* and *k* in Figure 1).

A successful competitive-based interrelationship between corporate and SCS is largely defined, but not limited to the interface between supply chain configuration and capabilities at the one side and the nature of the products at the other side. The proactive consultation of SCS already at the CL will disentangle mismatches at the business level and enhances firm performance through fit-driven competitiveness. Thus, proposition *RP3* as a link between CS and SCS-BuL follows:

RP3. A fit between CS and SCS-BuL is positively associated with the (business unit) performance of a firm.

RP3a. The higher the degree of supply chain-orientation of CS, the greater the level of integration between competitive alignment (cost leadership or differentiation) and supply chain design (lean or agile), and the more likely is a presence of the “right” supply chains for the products.

RP3b. Firms that have clearly defined supply chain capabilities to integrate the product characteristics with the “right” supply chain design will achieve closer strategic alignment at the CL than firms that do not.

4.4 Linkage 4. Functional interrelationships

Linkage 4 includes the level of FS in the interrelationship analysis, acknowledging the significance of FSs in the specification and ongoing execution of the firm’s primary activities. I distinguish between the indirect functional and the direct functional interrelationships. The two functional linkages do show certain similarities at the functional interface, yet are different in their procedural manifestation.

The first (indirect) functional alignment can be seen as an extension of the competitive-based interrelationship that warrants an individual inclusion due to the higher level of operational detail it entails. This indirect interconnection proposes that CS influences SCS and vice versa through the structural impact it has: first on business strategy, then on FS. Practically, this signifies that a corporate decision determining the coordination of a certain business has, in turn, a direct extended structural and strategic influence on FSs, such as sourcing, production, distribution, or logistics. This relationship certainly exists in practice, based on the interconnections established in the literature review, yet at the same time it remains difficult to grasp empirically due to its indirect nature. For reasons of completeness, I suggest including the functional indirect relationship when researching the interaction processes and interfaces between corporate and SCS. The impact of the interrelationship is predominantly established in SCS-FL and clearly in the SCOR processes.

Of further interest is the functional direct interrelationship, as the complex and possibly disruptive level of business strategy is bypassed. The direct connection between corporate and FS was established in several contributions (Cavinato, 1999; David *et al.*, 2002; Hult *et al.*, 2004). The direct functional linkage will, from the corporate

perspective, be driven by decisions concerning the assessed competitiveness and performance of a specific business and its configuration. Traditionally, the direct link between corporate and FS influencing SCM is made in a striving for “cost control”. Increased competitiveness in established industries elevated the importance of efficiency and effectiveness of certain primary and supporting activities to issues at the CL. Two examples of this are the SCOR function of strategic sourcing on the one hand (Christopher *et al.*, 2006) and lean manufacturing on the other (Goldsby *et al.*, 2006). Although it can be argued that such initiatives are predominantly of business strategy concern; research and practice suggest otherwise: in complex supply chains coordinated joint sourcing and the integrated planning of production are SCS issues concerning functional process, yet are dealt with at the CL of SCS (Brown and Blackmon, 2005).

A reversal of influence is not very apparent in the subject matter covered as part of the review, yet competitive advantages drawn from supply chain capabilities and positioning of primary activities of a firm, will influence the future pursuit of value at the CL. One area that has benefited is working capital and financial flow management in supply chains. As Christopher and Ryals (1999) pointed out, SCM can have an impact on a company’s shareholder value. Working and fixed capital efficiency, operating cost reductions and revenue growth, as well as the active management of the financial flows in the supply chain, constitute the core elements of financial SCS-FL.

The indirect functional interrelationship provides a path of interaction for emergent bottom-up strategizing, even when SCM distanced from a corporation’s strategic management. A focus on the common, yet often insignificant indirect functional relationship in strategizing processes could provide marginal increases in firm performance, through the targeted configuration of the primary supply chain activities in line with CS. The direct functional interrelationship can be employed to foster a distinct competitive advantage within a single firm or leverage a network capability, which is closely tied to one of the SCOR processes. Superior performance can be achieved by the conjoint concentration of strategic fit in the activity system to leverage distinct resources routed in SCS. As a result, I expect a positive correlation between CS and the SCS-FL, as expressed in the following proposition *RP4*:

- RP4.* A fit between CS and SCS-FL is positively associated with the (functional) performance of a firm.
- RP4a.* The higher the degree of supply chain-orientation of CS, the greater the level of integration between different functions, and the more likely is the functions’ focus on integrating material, information, and financial flows within and across supply chain members.
- RP4b.* Firms with clearly defined supply chain capabilities to integrate the different functions in a business unit will achieve closer strategic alignment at the CL than firms that do not.

5. Conclusion and outlook

The paper provides an in depth review of the current field of SCS and adds to existing research by developing a conceptual model. The study aims at advancing the understanding of the specific strategizing interrelationship between CS and SCM. Such alignments must incorporate the MBV and RBV and its dynamic advances through identifying key environmental, organizational and inter-company relational factors

(like the RelBV). Arguing, it is not so much one or the other strategy in isolation that influences subsequent performance, but rather the interaction with and the match between the general firm strategies and the specific SCS and its capabilities. In doing so, insights were gained and discussed.

The analysis of SCS in conjunction with CS has yielded analysis and procedural insights at all common levels of a firm including a network perspective. Decision makers who cooperate in an inter-organizational context within a supply chain should be aware of the often two-way exertion of influence in strategizing and move beyond simple strategic alignment. "Proactive" management and advancement of identified interrelationships in strategizing are presumed to be key drivers of a supply chain-based differentiation and competitiveness through mutual reinforcement between all relevant issues, levels and players. Such consistency, reinforcement and joint efforts are known to drive strategic fit that according to Porter (1996, p. 70) "locks out imitators by creating a chain that is as strong as its strongest link".

The research described in this paper is an attempt at developing new theory in the domain of strategic SCM. I posit a preliminary conceptual model to guide future research on SCS. As such, it remains untested. Each of the four linkages should be examined in greater detail. A logical next step for research based on this study would be to operationalize the framework through case research. Additional examples of how firms handle the linkages between NS as well as BuS and SCM would certainly add to the foundation developed here. Future studies might also include effort to survey a broad range of companies and compare the involvement of SCM in their strategy making process.

The paper showed a reduction in the number of scientific contributions the further from the traditional routes of SCM the level of analysis was placed. These findings require additional research to provide validity, especially in the setting of supply chains on the NL. Future research in the field of SCS should expand the existing body of science at the inter-organizational NL. Particularly in the context of extensive networks, the influence of inter-organizational SCS on CS in the single firm should establish an interesting field of research from a top-down perspective, whereas SCS – and not CS – would be located at the summit of the strategy hierarchy due to its interconnecting nature as well as its performance potential.

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