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LINKING CORPORATE STRATEGY AND SUPPLY CHAIN MANAGEMENT

Erik Hofmann*

*) Chair for Logistics Management, University of St.Gallen, 9000, St. Gallen, Switzerland
E-mail: erik.hofmann@unisg.ch, Tel: +41 (0)71 224 72 95; Fax: +41 (0)71 224 73 15

ABSTRACT

Purpose of this paper

The paper researches the linkages between corporate and supply chain strategy. It represents a stage of an on-going research initiative aimed at providing a framework for understanding systematically the integration of corporate strategy making and supply chain management.

Design/methodology/approach

The paper engaged itself in the theory/literature related to strategic and supply chain management. Four generic levels of strategy are linked to supply chain management, and synthesized into an explanatory framework. Propositions for future research are presented based upon the framework.

Findings

The paper shows that most of the literature on supply chain strategy relates to the functional level. Largely undiscovered are the linkages between corporate as well as business unit strategy with supply chain strategy especially on the network level.

Practical implications

A fit between corporate and supply chain strategy is positively associated with the performance of a firm. The framework developed can be used by managers to help them think through the possibilities to link supply chain management with the corporate strategy making process.

What is original/value of paper

By distinguishing a functional, business, corporate, as well as a network level, the paper provides a framework for future research to enhance the body of knowledge related to supply chain strategies and its relationships.

Keywords: Supply chain management, Strategic management, Corporate strategy, Business unit strategy, Functional strategy, Literature 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 especially while looking at a typical situation in business practice? Here, we often find the following situation pointed out by Presutti and Mawhinney (2007): 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." (p. 34). From this common statement twofold arises: (i) a missing link between corporate and supply chain strategy (SCS) and (ii) a lack of strategic orientation by supply chain managers.

On the one side, it is often ambiguous what corporate decision makers (corporate bosses) really intend. It is in question on which levels of the firm do they refer 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 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 as far as possible standardized. In such a case the corporate (strategy) alignments influence supply chain activities outlines on a network level (like the consolidation of the supplier base), the business unit level (like the standardization of components) as well as the functional level (like the sourcing and purchasing process itself).

On the other side, it has to be figured out how strategic competencies of supply chain managers look like? If they should be really strategic in nature, SCS is more than a maximum achievement of logistics efficiency or the emphasis of the ability to respond quickly to changing customer needs, outbound delivery and support (Autry et al., 2008). They also have to tend on market positioning – in sense of the market-based view – as supply chains are configured according to the characteristics of the demand for the products one's company supplies (Fisher, 1997). And, functions like purchasing, distribution or logistics should then follow a more strategic way. For example, strategic influences of resources and capabilities in the operative supply chain on marketing and promotion activities have to be considered in sense of the resource-based view (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 (Dyer and Singh, 1998) or the IMP-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) 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" (p. 18). 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 is considered as further knowledge in the research domain, given the concurrent rising relevance of extensive inter-firm networks. At the same time, the functioning and interdependence between the strategic potential of SCM and the realm of

corporate and business strategies seems to be not broadly examined in the existing literature. Thus, SCS still needs a coherent framework interacting with the different firm strategies. In this paper I assume that SCM must be aligned with the firm strategies in order to contribute to sustainable competitive advantages. Similarly to Skinner (1969) who advances manufacturing as a missing link in corporate strategy, 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 in particular 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 approach of research 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, which contribute to the development of a theory subsequently. 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 tested (rather theory-building than theory-testing-research). Having decided on the adoption of a conceptual and theory-building-approach in the fields of corporate and supply chain strategy, I developed the research question accordingly. In trying to better understand the essence of SCM in corporate strategy making, I focus on the following question: *How do corporate and supply chain strategies interact in conjoint interrelationships?* The research, in the process, is mainly influenced by the different levels of strategy provided by Huff et al. (2008). The ultimate purpose of this paper is to provide conceptual/theoretical foundation to enhance the body of knowledge related to integrating SCM with corporate strategy.

In order to answer this question, the paper is organized as followed: Firstly, I give the foundations of firm and supply chain strategy within different levels of interaction. Secondly, a literature review is employed in order to obtain a comprehensive overview of the current field of SCS and its main research gaps. Thirdly, the discussion on the existing gaps in the literature paves the way for the subsequent theory building in the form of a conceptual framework. Fourthly, four linkages of corporate and supply chain strategy 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 then be described as strategic if they lead to creation and exploitation of potentials for success or significantly influence the development of the firm. 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: (i) *Network strategy* (NS) concerns the inter-organisational dimension (or network level) at which the firm interacts with other companies. According to Baraldi (2008), a network strategy consists 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). (ii) *Corporate strategy* (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 corporate strategy are to identify the industries within which the business divisions of the organization will compete and to allocate corporate resources to these units (Huff et al., 2008, p. 15). (iii) *Business unit strategy* (BuS) focuses on competitive advantage, ie 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 (SBU) thereof aims 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. (iv) *Functional strategies* (FS) either concern activities, such as production and distribution, or supporting activities, such as human resources or information technology.

On the one hand, the focus and objective of strategy, ie strategizing, varies between the levels, but on the other hand each level can influence and is interlinked to the others. The strategic fit between internal aspects of an organization and the external environment determines competitive advantage. The *market-based* (MBV, or alternatively the industrial organisation economics-based contribution) and the *resource-based* (RBV) views of strategy provide alternate explanation attempts of how to achieve this fit. The continuing debate in the literature about the relative importance of the market vs. the company itself has centred on issues of business rather than corporate strategy (Brown and Blackmon, 2005). RBV as well as dynamic capabilities (Teece et al., 1997) and entrepreneurship/leadership (Bowman and Helfat, 2001), however, contains a role for corporate strategy based on utilization of common resources by related businesses within a firm (Peteraf, 1993). In both the MBV and RBV, functional strategies should be consistent with corporate and business-level strategies (Kotha and Orne, 1989). Functional strategies 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-organisational settings the *relational-based* (RelBV) view of strategy (Dyer and Singh, 1998) illustrates the importance of business relationships itself as a competitive advantage. It aims mostly at the network level. 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 "supply chain strategy" which is relatively young in relation to its use 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. Herein, SCS is for example linked via 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 competitive advantage. *Supply chain capabilities* in the sense of 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* itself become a source of competitive advantage for the supply chain as a whole like the RelBV 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, the corporate, the business and at the functional level:

(i) Conducting *SCS at the network level* (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 network level the respective sector must be defined; and the involved companies must be aware themselves belonging to that specific network. The established supply chain sector can be hence interpreted as a "quasi-integrated" firm (Blois, 1972). This step allows a "harmonization" of the actors' SCS on the network level. But with such inter-organizational alignments the question arises which strategy component shall companies keep and which ones should be adapted and synchronized. As Defee and Stank (2005) pointed out: "This does not imply that each firm's strategy needs to be the same." (p. 33). It can be assumed that a quasi-integrated company underlies a partial integration which combines economically independent activities in the up- as well as downstream without causing a complete legal consolidation. Ideally the affiliated firms act like one company as long as they belong to the specific network.

(ii) *SCS at the corporate level* (SCS-CL) mainly refer to companies with more than one business unit. The SCS at the corporate level 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 level of diversification of the business area portfolios. It becomes crucial to identify whether (and which) processes and resources should be assembled (for example in manufacturing) regardless of their affiliation to the value creation and which ones can be operated separately (for example in distribution). Whether centralized or a decentralized corporate planning offers advantages also depends on the business areas (Kreipl and Pinedo, 2004). The more similar the business areas are the sooner a centralized control is aimed at 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.

(iii) *SCS at the business unit level* (SCS-BuL) largely concerning customer groups (eg among others regarding region, amount and structure), the product (eg whether it's functional or innovative) as well as tactics of market cultivation (eg 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 gets. According to Fisher (1997), a cost efficient supply chain is needed with functional products while innovative products imply a responsive supply chain.

(iv) *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 the business and corporate area strategy the strategic activities on the functional area must be aligned horizontally among each other (Wunder, 2005). A common definition of SCS at the functional level is given by Chopra and Meindl (2004). 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" (p. 29).

Beyond these theoretical foundations it is of further interest whether current research covers with 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 the 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, namely plan, source, make, deliver and return. It is a useful tool to help structure publications in the literature review, which focus on SCS at the functional level. A 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. the 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, firstly 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 network levels. The former narrow keywords belong to "plan", "source/procurement", "make/manufacturing", "deliver/distribution" as well as "logistics/supply chain". The latter wider keywords were: "supply chain strategy", "supply chain management strategy", "business strategy & supply chain", "corporate strategy & supply chain", "network & supply chain", as well as "network strategy". Furthermore, I conducted the search only in business and scientific journals chosen at the outset in the predefinition of the literature review. Priority is given to academic journals with a high grading. Priority is given to 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), whilst 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 the 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 supply chain strategy. This consideration is significant in obtaining a comprehensive selection of articles, as some leading supply chain strategy 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".

Due to the relative recentness 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 (see Appendix). The literature review presents a range of contributions in the field of SCS at its various levels of influence. For all levels valuable journal articles could be located and reviewed. The levels along which the contributions are structured in the literature review are located on the horizontal X-axis whilst the organisational level influenced by the SCS is placed on the vertical Y-axis.

2.2. Results

The origins and foundation of SCM as a functional activity are reflected by the large body of literature presented at that level (eg Boone et al., 2007; Pagh and Cooper, 1998; Dawande et al., 2006; Schnetzler et al., 2007). 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 (eg Sodhi, 2003; Kreipl and Pinedo, 2004; Lee et al., 2004), source (eg Nollet et al., 2005; David et al., 2005; Ogden et al., 2005), make (eg Lockamy, 2004; Brown and Blackmon, 2005; Sengupta et al., 2006), deliver (eg Stephens and Wright, 2002) and return (eg Mollenkopf et al., 2007) as well as enabling activities especially logistics (eg Cavinato, 1999) and IT (eg Johnson and Whang, 2002; Paulraj and Chen, 2007). Similarly, SCS research at the functional, business and corporate level invariably shows a strong interrelationship with the level of a firm's functional strategy. 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 (p. 12). 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 at the functional level 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* (Figure 2.1).

With the recognition of the increasing importance of the supply chain as a driver for competitiveness, some contributions (eg Fisher, 1997; Lee, 2002; Mason-Jones et al., 2000) have been made linking supply chain decisions and activities (at the business unit level) 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 commonly remains a functional strategy from a single firm perspective, yet with an increasing reach of influence. Top-down, SCS topics discussed at the business level such as "a culture of competitiveness and knowledge development" (eg Hult et al. 2007) or on "customer service and financial performance" (eg Vickery et al. 2003) which are coherently 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 network level, 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 network level (eg Christopher et al., 2006).

Figure 2.1 Spread of SCS literature

Contributions discussed in the domain of SCS from a corporate perspective – especially if a company has more than one business unit – concern the issue of strategic alignment. Contributions present valuable research discussing strategy formulation and execution processes that aim at building coherence between corporate strategy and all the firm-level strategies placed below it (eg Tamas, 2002; 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 (eg Lorenzoni and Lipparini, 1999), inter-organisational supply chain capabilities at the corporate level are addressed, linking it to the level of the inter-firm network (depicted in the still weak yet intensifying interrelationship in field *o*).

SCS topics examined at the network level usually deal with the challenges of managing the network itself. First weak links to other strategy levels are given by the mutual interconnections with the functional (Yee and Platts, 2006) and business unit level (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 were placeable herein. Although often articles bear the term "network" in their topical description, but 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 by defining network strategies when applied across groups of companies. For a time the literature did not distinguish between different forms of inter-organisational paradigm (eg supply chain, extended enterprise or virtual enterprise), and consequently a general label "network strategy" was adopted for all of these approaches, as it was considered similar in orientation. This state of affairs seems to be past: the reviewed papers represent a situation that is beginning to distinguish between different types of inter-organisational networks – one of them is a supply chain (network). Thus, we can no longer use SCS for all of these inter-organisational forms; the most we can say is that they are similar in orientation but that one form of inter-organisational 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:

Research gap #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 corporate level 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.

Research gap #2: In addition, the link of business and corporate strategy at the one side and SCS at the corporate level is almost omitted entirely, establishing a second research gap (fields *g* and *k*). Studies focus on SCS to corporate strategy alignment, with little regard for the business level in between; discussions of sourcing or purchasing emphasise 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 strategising should without a doubt take competitive product and supply chain strategising into account.

Research gap #3: Thirdly, a research gap can be identified between SCS at the network level and the corporate level of a firm as well as the network level itself. Although corporate level contributions make a bottom-up connection to the network level (see for instance Lorenzoni and Lipparini, 1999), the only few network level contributions appear to be more concerned with competitive and functional capabilities than key corporate level concerns (as for instance growth strategies and industry attractiveness assessments) or major network level 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 network strategy as well as forming and implementing of SCS on the network level.

In a first conclusion, SCS appears to be still firmly rooted in its role as a key functional strategy 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, its reach and influence as a strategic factor of competitiveness is increasing, congruent with the expanding role of SCM as discussed in several of the reviewed publications (eg Wisner, 2003; Hult et al., 2007). This understanding is concordant with Stank et al. (2005) who underline the extended importance of SCS as a link between several functional strategies 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, in the inter-organisational context researchers are pointing to the management of networks as a distinct source of competitive advantage (Tamas, 2000; Blankenburg Holm et al., 1999). Hence, SCS as well as the supply chains' capabilities should be involved in the corporate strategy formulation and implementation processes.

The next section will draw upon the wealth of research and insights presented in the current status of research when examining the specific alignment between corporate strategy and SCS 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 seen in Figure 2.1 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 which is only based on the Structure-Conduct-Performance approach will probably lead to a "misfit", especially when the external environments are increasingly dynamic. The RBV – following the Resource-Conduct-Performance approach – does emphasize the importance of resources and capabilities when competitive advantage and performance is based on dynamic flexibility. But inevitably, also a single resource and capability orientation fails the market requirements (Verdin and Williamson, 1994). Thus the conceptual model must consider simultaneously the external supply chain environment and the supply chain capabilities.

In coherence with the generic levels of strategy (Huff et al., 2008), a framework is put up by connecting CS and SCS (Figure 3.1). It extends schematically the approach developed by Stank et al. (2005) by adding a network level (NL) and differentiating the functional level within the SCOR classification. Especially within the network level the framework addresses the members of the supply chain, although the other linkages should be viewed from a single-company perspective.

Figure 3.1 A framework of the strategizing interrelationships

At least four distinct linkages are conceivable through which corporate strategy is interrelated with SCS. These four interrelationships can be mapped with arrows leading from corporate strategy the generic strategy level model to the four levels on which SCS has been found to have a direct or an indirect influence. The linkages are always a two way connection due to the two ways to view 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 ways 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-organisational network strategy, which is increasingly a key element in corporate strategizing itself

(*network-driven interrelationships*). It can therefore be justly assumed that by setting the outline for network creation and coordination, corporate strategy 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 corporate strategy directly impact decision making in SCS (*direct corporate interrelationships*) and vice versa.

Thirdly, by laying the foundations in the choice of industries and businesses, corporate strategy 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 strategising processes at the business level, ie competitive decisions that outline functional strategies such as sourcing, manufacturing, distribution or logistics (indirect functional interrelationships). However, also a direct link between CS and SCS at the functional level is applicable, especially if a strong concern for key functional processes can be identified at the corporate level and vice versa (direct functional interrelationships).

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. It has to be to constrain that the linkages do not represent decision-making- and execution processes in the sense of a strategy process (Karnani, 2008). How the four interrelationships function and which levels of SCS they tend to impact will I discuss next.

4. DISCUSSION

The strategic interrelationships between CS and SCS shall now be discussed in greater detail. Where applicable, theoretical insights 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 corporate strategy and SCS via the network level. This connection is justified, in the sense that SCM itself commonly operates in inter-organisational settings. As part of their core function, corporate strategists take decisions regarding the configuration of the businesses of the firm that effect the network level. 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 network level will determine the creation and configuration of strategy for a broader network and its embedded key firms. It can therefore be established that due to the competitive drivers, the interrelationship between corporate strategy and SCS via strategizing at the network level must grow in importance.

As far as SCS is concerned, the network-driven interrelationship appears to mainly influence the network and the functional level and vice versa. This insight can be justified, given that corporate driven determinants of network strategy will mainly concern network positioning and integration. Firstly, network positioning, lies in the realm of SCS at the network level, 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. Secondly, 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 in particular concern key activities such as the joint pooling of resources, the integrated planning process and combined real time order management systems. This research into the establishment of strategizing processes and synchronisation is in line with the *research gap* (#3) presented by fields *l* and *p* in Figure 2.1.

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 in to a more predominant focus in inter-organizational strategizing processes. Superior performance is achievable in the management of the network-driven interrelationship, 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 *RPI*:

RP 1: A fit between CS and SCS-NL is positively associated with the (network) performance of a firm.

RP 1a: 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.

RP 1b: Firms that have clearly-defined supply chain capabilities to integrate key suppliers, customers and service providers will achieve closer strategic alignment 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. Corporate strategy may have a direct impact on SCS given its core activities of configuring and particularly 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 corporate strategy 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 require a firm to indeed run several diverse supply chains (Tamas, 2002), necessitating a significantly increased complexity in for SCM. From this perspective, corporate strategy decisions regarding business configuration could impact SCS 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 corporate strategy is keyed to diversification with little relation to the existing businesses (Bowman and Helfat, 2001). In an alternative focus, corporate strategy may pinpoint a key process at the functional level of SCS as a strategic priority, as has commonly been the case with the sourcing function with the advancement of global sourcing initiatives.

The interrelationship also influences the degree of strategic fit between SCS and the units at the business level among 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 set-up could in a reverse impact process influence the direction of corporate strategy (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 corporate level. This research into

the influence of SCS at the business level on corporate strategy also addresses the *research gap #1*, represented by field *j* in Figure 2.1. Furthermore, the network level of SCS may also be influenced in the direct interrelationship, if the configuration of different businesses substantiates modifications in the inter-organisational relations 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 establishing a competitive advantage are able to limit or focus the scope of corporate strategy, 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 *RP2*:

RP 2: A fit between CS and SCS-CL is positively associated with the (corporate) performance of a firm.

RP 2a: 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.

RP 2b: Firms that have clearly-defined supply chain capabilities to integrate the different supply chains of the business units will achieve closer strategic alignment 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 corporate level, as such factors as 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 drive 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 supply chain strategy 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 corporate strategy 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. The first 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.

Although the competitive-based interrelationship between corporate and supply chain strategy manifests itself in an indirect way, point towards this link might a common mutual influence. The main levels of SCS that are affected by the competitive-based interrelationship can provide valuable inputs to corporate strategy reversely on the same path. It can be determined as the business and the functional level as well as – to a lesser extent – likewise the network level. A question remains whether SCS is able to gain a higher level of attention at the corporate level through intense iterative processes along the third linkage. This issue is inherent in the *research gap #2* identified in the literature review (fields *g* and *k* in Figure 2.1).

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

RP 3: A fit between CS and SCS-BuL is positively associated with the (business unit) performance of a firm.

RP 3a: 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.

RP 3b: Firms that have clearly-defined supply chain capabilities to integrate the product characteristics with the "right" supply chain design will achieve closer strategic alignment than firms that do not.

4.4. Linkage 4: Functional interrelationships

Linkage 4 includes the level of functional strategy in the interrelationship analysis, acknowledging the significance of functional strategies 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 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 corporate strategy influence SCS and vice versa through the structural impact it has firstly on business strategy, then consequently on functional strategy. Practically, this signifies that a corporate decision determining the coordination of a certain business in turn has a direct extended structural and strategic influence on functional strategies, such as sourcing, production, distribution or logistics. This relationship is certainly existent 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 to include the functional indirect relationship when researching the interaction processes and interfaces between corporate and supply chain strategy. The impact of the interrelationship is predominantly established in SCS at the functional level and coherently in the SCOR processes.

Of further interest is the functional direct interrelationship, as the complex and possibly distortive level of business strategy is bypassed. The direct connection between corporate and functional strategy was established in several contributions (eg 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 functional strategy influencing SCM is made in a strive 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 corporate level. Two examples for this are the SCOR function of strategic sourcing on the one hand (eg Christopher et al., 2006) and lean manufacturing on the other (eg 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 and targeted sourcing and the integrated planning of production are SCS issues concerning functional process, yet are dealt with at the corporate level of SCS (Brown and Blackmon, 2005).

A reversal of influence is not so apparent in the subject matter covered as part of the review, yet successful competitive advantages drawn from strategic supply chain configurations and positioning of primary activities of a firm, will influence the future pursuit of value at the corporate level. One area that has however benefited is the area of working capital and financial flow management in supply chains. As Christopher and Ryals (1999) pointed out, SCM can have an impact 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 at the functional level.

The indirect functional interrelationship provides a path of interaction for emergent bottom-up strategizing, even when SCM may be placed at distance 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 the distinct source routed in SCS. As a result, I expect a positive correlation between CS and the SCS-FL, as expressed in the following *RP4*:

RP 4: A fit between CS and SCS-FL is positively associated with the (functional) performance of a firm.

RP 4a: 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 focus of logistics on coordinating movement and storage activities across supply chain members.

RP 4b: Firms that have clearly-defined supply chain capabilities to integrate the different functions in a business unit will achieve closer strategic alignment 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 corporate and supply chain strategy. Such

alignments must incorporate the MBV and RBV and its dynamic advances through identifying key environmental, organizational and inter-company relational factors. 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. In doing so, insights were gained and discussed.

The analysis of SCS in conjunction with corporate strategy has yielded analysis and procedural insights at all common levels of a firm including a network perspective. Decision makers that cooperate in an inter-organisational context within a supply chain should be aware of the often two-way exertion of influence in strategizing and move beyond simple strategic alignment. The "proactive" management and advancement of the five 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 in the activity system. Such consistency, reinforcement and joint efforts are known to drive strategic fit that according to Porter (1996) "locks out imitators by creating a chain that is as strong as its strongest link" (p. 70).

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 literature review showed a diminishment in the number of scientific contributions the further the level of analysis was placed away from the traditional routes of SCM at the functional level. These findings require additional research in order to provide validity especially in the setting of supply chains on the network level. Future research in the field of SCS is expected to expand the existing body of science at the inter-organisational network level. Particularly in the context of extensive networks, the influence of inter-organisational SCS on corporate strategy in the single firm should establish an interesting field of research from a top-down perspective, whereas in this case supply chain and not corporate strategy would be located at the summit of the strategy hierarchy due to its interconnecting nature.

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APPENDIX - REFERENCES OF THE LITERATURE REVIEW

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