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service provider perspective**

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Unchained from the chain:

Supply management from a logistics service provider perspective

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Abstract

The last few years have seen increasing recognition of the work of logistics service providers, as well as the significance of functioning supply relationships. This paper proposes an alternative view of supply management that builds on the observation that traditional supply chain management focuses on logistics clients rather than the service providers themselves. The paper utilizes the 4 Resource Interaction tool to illustrate how a logistics service provider faces different idea structures and activated structures than its clients in three different markets. The resulting resource perceptions and preferred resource combinations create tensions and tradeoffs between the logistics service provider and its clients. Unchaining logistics from the conventional chain structures achieves a more comprehensive understanding of interactions between shippers and logistics service providers.

Key words: Logistics service provider, supply management, systematic resource combining

1. Introduction

The integration and management of logistics and manufacturing are fundamental dimensions of interorganizational strategy (e.g., Pagh and Cooper, 1998). Indeed, observers are increasingly perceiving supply chains as essential representations of interorganizational relationships; some researchers even argue that competition has shifted from firm vs. firm competition towards supply chain vs. supply chain struggles (e.g., Ketchen and Hult, 2007). This development implies the growing importance of management of supply relationships.

Previous work on supply chain management has focused on understanding how logistics can interact with strategy and structure in order to provide a manufacturing firm with a competitive advantage (cf. Stock et al., 1998). This concern has also started to cover the use of logistics resources (cf. Gadde et al., 2002; Jahre et al., 2006). From a resource interaction standpoint (e.g., Håkansson and Waluszewski, 2002; Wedin, 2001), the value of resources depends on their combinations with other resources, both inside and outside organizational boundaries.

The basic rationale of the present paper is that mainstream supply chain management essentially builds on the strategies, structures and resource combinations that seem appropriate for manufacturers and retailers; that is, the organizations that are traditionally the supply chain's primary actors (cf. Lambert et al., 1998). The literature has not directed sufficient attention to the so-called support actors, such as logistics service providers, and their view of supply management.

This is unfortunate given the importance of companies trying to understand, from the perspective of the other participating actors, how their relationships and networks function

(cf. Håkansson and Ford, 2002: 138). Idea structures, which represent an actor's underlying knowledge, ideas, and goals, influence the actor's viewpoint. A clearer and more articulate idea structure enables the interacting parties to understand each other better (Håkansson and Waluszewski, 2002; Baraldi and Waluszewski, 2005). The value chain model (Porter, 1985) is the field's dominant idea structure and provides the basic explanation behind the imbalanced focus on manufacturers and retailers in the supply chain literature. Like other areas of strategic management, the supply literature is "chained to the value chain," to borrow a phrase from Normann (2001). Furthermore, idea structures have an intimate association with activated structures. The supply chain literature has a corresponding close association between the value chain model and the emphasis on supply chains.

This study aims to unchain the logistics service provider from the value chain logic by addressing the following questions: What are the basic differences between the idea structures and the associated activated structures, guiding logistics service providers and their customers? How will such differences influence the perception and combination of resources in supply relationships?

The well-known value chain model (Porter, 1985), and the more recent value network model (Stabell and Fjeldstad, 1998) represent two important idea structures in supply relationships. The common notion of supply chains and the more recent perspective of supply networks are regarded as the main activated supply structures. The 4 Resource Interaction framework (e.g., Håkansson and Waluszewski, 2002) is used for analyzing the structures. The study's main contribution is the explanation of how the dominating idea structures and activated structures delimit our understanding of logistics service providers' contribution to functioning supply relationships.

2. Supply Management and associated idea structures and activated structures

The basis of an idea structure is a set of principles and technologies and the idea structure refers to a “pattern of different logic, includes knowledge of different technological possibilities as well as different actors’ problems, goals and ambitions” (Håkansson and Waluszewski, 2002: 80). An idea structure can be more or less in accordance with an activated (physical) structure. The development of the idea structure takes place in close relation to the activated structure and the expression of the idea structure can occur in manuals, pictures and drawings, including a set of principles.

Håkansson and Waluszewski (2002) further stress that the idea structure is important to the activated structure by facilitating an interpretation of the activated structure, including an understanding of how it works and the technology involved. The idea structure can also act as a source for making conscious decisions regarding change in the activated structure. Figure 1 illustrates the following presentation.

Please insert Figure 1 about here

Consequently, the following presentation extrapolates the notion of idea structures and activated structures into the realm of supply chain management, with a focus on the logistics service provider.

2.1 Traditional Supply Chain Management (cell 1)

The value chain model (Porter, 1985) represents a powerful idea structure in supply relationships. The model builds on a number of principles that have had significant impacts on

the understanding of logistics and supply chain management. The model has a certain pattern and a specific focus on a core technology and provides a specific view of actors' goals and ambitions. The value chain model also influences activity structures in the form of supply chains in a profound way.

One basic characteristic of the value chain – as the layout of the primary activities in the generic model indicates – is a long-linked technology (see Porter, 1985: 37). The process involves the serial execution of tasks, which means that interdependencies are sequential (e.g., the outputs of inbound logistics are the inputs of operation activities). A series of activities capture value creation. These activities transform inputs into products and explain performance as a result of the optimization of distinct production functions.

In line with the reasoning of Stabell and Fjeldstad (1998), the focus of the value chain firm is an organization that converts raw materials into more or less standardized, tangible products, the main cost driver of which is economies of scale. According to Porter (1985), the value of the product in the marketplace is the vehicle that creates differentiation from competitors' products. The focus on the physical products makes the model particularly relevant for product owners, such as manufacturers and retailers; that is, the clients of logistics service providers.

The supply literature typically represents the corresponding activated structure as a supply chain, portraying the structure as the flow of goods from the manufacturer to the warehouse/distribution centre, then to meet retailers' orders, and finally to the consumer. In line with Porter's (1985) reasoning, value systems/supply chains consist of a number of sequentially interdependent value chain operations. This line of reasoning is in accordance

with the content and focus of what supply chain management is all about, which is the same as managing upstream and downstream relationships with suppliers and customers (Christopher, 1998).

2.2 Industrial networks (cell 2)

One problem with the value chain logic is its characterization of logistics service providers and other intermediaries as non-value adding entities that perform routine functions in return for a portion of the margins in the supply chain (cf. Rabinovich and Knemeyer, 2006).

Industrial network scholars refrain from labelling any particular supply actor either as a primary or support actor, acknowledging that the role of different actors and their views of the activated structure is significantly dependent on the actors' evolving network positions.

Nevertheless, the product owner or manufacturer receives special attention when analyzing supply networks from an industrial network approach. The focal firms in Gadde et al. (2010) include IKEA, Ducati, and Volvo, but the authors do not explicitly address the logistics service provider.

From a resource perspective, however, a key argument is that a resource does not have a given quality or value; embedding the resource with other resources creates this quality. In a supply setting, this implies that manufacturers, retailers, and logistics service providers co-create value by combining resources (Jahre et al., 2006). This is also a central claim from a logistics viewpoint.

Another important argument at the interorganizational level of analysis is that the traditional supply chain perspective does not consider the interdependence of chain relationships (e.g., Gadde and Håkansson, 2001). This line of reasoning adds to the existing understanding of activated structures by stressing the interdependence of supply chains.

Viewing these structures in isolation obscures the full understanding of the value-creation process when firms combine resources. Consequently, whereas the value chain model results in activated structures that consist of sequentially interlinked supply chains, the industrial network view highlights the interdependencies that often exist *between several* supply chains.

2.3 Value configuration analysis (cell 3)

Stabell and Fjeldstad's (1998) value configuration analysis includes the value network model. Rather than focusing on the physical product (as the value chain model does), the value network model builds on the idea that a characteristic of modern society is a complex set of actual and potential relationships between actors. The organization and facilitation of exchange between customers is fundamental to value creation in value networks. A critical determinant of value to any particular customer is the set of connected customers. Unlike the long-linked technology that characterizes value chains, the basis of value networks is a mediating technology for handling and coordinating operations involving multiple clients, distributed in time and space, in standardized ways. This line of reasoning builds on Thompson's (1967) categorizations of interdependencies and the related coordinating mechanisms.

The value network presents an alternative idea structure built on mediation, which is particularly relevant for logistics service providers. Demand-side economies of scale are characteristic of value network services (Katz and Shapiro, 1985) and the value of the service to existing customers increases with the addition of each new customer to the network. Mediation services offered by value networks represent the extreme case because the dependency among customers is the main delivered product. In other words, the other customers are the key part of the product in value networks (Stabell and Fjeldstad, 1998).

The main service of a logistics service provider is to facilitate the customers' opportunities to exercise those dependencies.

This model correlates with activated structures that result in an alternative view of supply networks. Value network operators form co-producing layers of mediators, with one network using a 'lower-level' network structure as a sub-network (Stabell and Fjeldstad, 1998). From a logistics service provider viewpoint, a supply network builds on the presence of co-producing, layered and interconnected value network operations.

As an illustration, consider an administrative logistics service provider, also known as a 4PL. Such a firm designs supply solutions based on systematic combinations of resources from different carriers, storage operators, package companies and a number of knowledge- and service-intensive firms. The firm does not own any physical logistics resources, but mediates to third-party logistics firms (3PLs) that operate the physical flows. Whereas the 4PL manages the information flows and coordinates the supply network, 3PLs operate network layers in which the moving of the physical products actually takes place. In addition, the 4PL co-creates value by using the communication infrastructures provided by a telecom operator. The 3PLs utilize roads and railway systems that additional actors operate. The sequential logic that the value chain provides does not capture the services of these actors; instead, these actors co-create value in a synchronized, simultaneous manner.

2.4 Value configuration analysis and Industrial networks (cell 4)

A core issue in this study and a subject of further development in the discussion section is the combination of value configuration analysis and industrial networks. Logistics service providers exist to serve manufacturers and retailers, so understanding the structures and

resource perceptions of their clients is essential. This does not, however, imply that the best way to improve the customers' business is to follow their structures. Logistics service providers may use an alternative idea structure as their guide, a structure that regards them as actors on their own terms. This study regards the value network model as such an idea structure. On the activated level, this implies an emphasis on supply networks consisting of complex interdependencies that are pooled, sequential and reciprocal in nature.

3. Research Methodology

Few empirical studies consider the multifaceted interplay between idea structures and activated structures, which suggests that a qualitative approach is suitable. This paper builds on a single longitudinal case study. The focal firm, LINC, performs administrative logistics services on behalf of its clients (beverage importers and other trading company in the fast-moving consumer goods market). Logistics service providers in general, and administrative logistics in particular, develop supply solutions for their customers by developing relationships and mobilizing resources. Their emergence turns the focus toward the resource dimension in supply chain management (Jahre et al., 2006; cf. Gadde and Håkansson, 2008).

3.1 The longitudinal case study

A longitudinal design comprising two main phases generated the primary source of case data. The study began as an exploratory study of value creation that focused on various activity sets among firms in supply networks. A series of interviews with a set of actors, including a customer, two of LINC's 3PL suppliers, a bank operating as a service supplier, and a retailer representing end customers helped provide an understanding of the different views of LINC's supply network operations. The interviews lasted between 60 and 180 minutes and produced transcriptions on the basis of tape recordings and/or field notes. The

interviews were semi-structured on the basis of a guide that asked the informants to focus on activities as well as on resources for performing the activities. The author conducted the first series of 11 interviews with managers between 1999 and 2003 (see Huemer, 2006).

The second phase continued from 2007 to 2009. This phase reconsidered the basic studied phenomenon, which led to the focus on the use and view of resources becoming more articulated. This period also included an additional six interviews with founders of the focal firm and the former CEO. In addition to these in-depth interviews, participation in two advisory board meetings and in two workshops for supply network stakeholders generated insights from other participants (clients and suppliers).

3.2 Analysis and research quality

This paper focuses on LINC and its perception of how the supply network functions. The notions of abduction and systematic combining captured the analytical process (cf. Dubois and Gadde, 2002). Constantly moving back and forth from one type of research activity to another and between empirical observations and theory enabled the expansion of understanding both theory and empirical phenomena. This matching process is central to the abductive logic, in which the four following factors play a central role: what is going on in reality, available theories, the case that gradually evolves, and the analytical framework. Here, this matching process equals the activated supply structures (supply chains and supply networks), the expanding empirical case, the theories embedded in the idea structures (value chain and value network), and the 4 Resource Interaction framework. The core resource categories are Business Relationships and Business Units, which are primarily social in nature, whereas Products and Facilities are fundamentally physical in nature. A business unit can be one firm or several firms together; this dimension includes attention to the unit's

interaction skills, such as its ability to cooperate. Relationships, in turn, are seen as among the most essential resources. The common conception is that products are physical/tangible objects, which a company can design, manufacture and distribute, and which a consumer can use. Finally, facilities or production structures can include manufacturing equipment or warehouses, ports and trucks in a logistics setting. A common denominator of all four resource categories is that their creation and formation involves interaction processes.

This study has addressed its credibility and logical coherence in a number of ways. The longitudinal design permits examination of the development of the focal firm and its network in real time. Creative use of member checking is one of the most important forms of validation of qualitative research (Lincoln and Guba, 1985; Stake, 2000). This implies that the researcher negotiates findings with informants and peers. Formal presentations were given to LINC representatives in 2001 and 2003, and again in 2008 and 2009 to former representatives of LINC. Other participants provided feedback during the two workshops.

4. LINC's supply management in the Nordic markets

This section starts by presenting basic information regarding the focal firm and the supply network. Thereafter follows a presentation of LINC's work in three different markets, representing settings with different tensions and tradeoffs between idea structures and activated structures.

LINC's basic task was to connect senders and receivers by delivering products (beverages) from manufacturers to retailers. Deregulation created a new market for beverage agents and importers in Norway, which facilitated the establishment of the firm in the mid-1990s. The market at this time included a number of smaller beverage agents/importers. A relatively

cooperative climate and the potential to take on a larger share of the value created in the beverage supply chain encouraged a couple of importers and logistics entrepreneurs to join forces to create LINC. The idea was to share logistics resources and to control the information flow internally, while integrating product and cash flows in the offering. This 4PL solution was new to the market at the time. The design of the basic supply flows was as follows:

The physical flow: LINC's fundamental business idea was to develop relationships with partners and other logistics providers. The 3PLs were solely responsible for the physical logistics operations (distribution, warehousing, and transportation).

The payment flow: LINC's banking partner was one of Norway's largest financial service groups. From LINC's perspective, this partner provided a tailor-made system for factoring services as well as the necessary infrastructure for the payment flow.

The information flow: The core of LINC's own infrastructure was its integrated logistics governance system, which controlled the network's flow of goods, including purchasing, transportation, warehousing, ordering of sales, and invoicing.

The concurrent synchronization of the three flows of physical goods, information and cash illustrates the layered network structures. In managing the basic task of connecting sender and receiver, LINC depended on the fundamental resources that reside in what is normally identified as the infrastructure of society; this includes roads, railways, ports, canals, airports, and telecommunication networks. The supply network included additional resources of various types, such as vehicles moving goods between fixed points, carriers used in these operations (containers, pallets, etc.), and other equipment for moving, storing and handling the goods. While the contracted 3PLs transported the goods on the basic infrastructures, LINC simultaneously managed the information flow and facilitated the services related to the cash flow. LINC itself utilized resources such as servers, communication infrastructures, and

advanced IT systems.

4.1 The Norwegian market

By 2002, LINC was managing the flows of goods, information, and payment for some 25 clients in Norway; in other words, LINC was managing 25 different *and competing* supply chains, six of which also had ownership interests in LINC. The company placed orders on behalf of clients and organized freight to Norway for all shipments from approximately 700 producers around the world. Warehousing and onward distribution to more than 200 retailers was also part of the deal. In 2009, LINC managed over 30 supply chains.

The supply network's considerable size made it possible for LINC to negotiate deals that were beneficial for its customers, in addition to providing significant business opportunities for suppliers that operated both the physical and the payment flows. LINC became instrumental in facilitating value creation at the supply network level of analysis. LINC utilized shared resources, such as its control and information systems, management resources and logistics expertise, as well as its partners' physical distribution resources. This use of resources manifested a set of pooled interdependencies in the network. The efficient coordination of these interdependencies required standardization across the clients' supply chains.

LINC's business was successful for itself, its clients, and a number of third-party actors in the network. LINC managed to develop trust and cooperation among a large number of competing supply chains. The strategic ambition, from LINC's standpoint, however, was to increase its independence from the owners in order to be perceived as a neutral party, to reduce the suspicion that it would favor certain importers' supply chain. This strategy worked well in Norway, less well in Sweden, and not at all well in Finland.

4.2 The Swedish market

In 1999, LINC realized its plans for international expansion. In Sweden, LINC's initial idea was to build a structure that was similar to its Norwegian one. Although deregulation of the Swedish market took place one year earlier than in the Norwegian industry, this was done with little communication between the Swedish industry actors themselves, unlike the Norwegian development.

The Swedish industry had a different mentality, which gatherings at industry fairs revealed. Whereas Norwegians would spend time together in the same areas, talking and socializing, the Swedes questioned such openness and maintained a more competitive attitude towards one another. LINC thereby faced a different situation when trying to build its Swedish network. Swedish beverage agents and importers negotiated individually with the main logistics service providers and asked them to set up 3PL solutions, warehousing, and distribution, while the importers managed the administrative control, billing, and other facets in-house. LINC's potential clients thereby competed more strongly regarding logistics than they did in Norway.

The slow progress led LINC to acquire a couple of Swedish import firms. When LINC started to coordinate the logistics operations for these firms, it became clear that the acquired importers had poor existing deals regarding their logistics services. This experience increased the belief that there was a market for more professionally managed logistics. However, LINC also experienced two-trust related challenges. Potential clients perceived the customers that LINC's owners acquired as threats and it became difficult to obtain any further response because of the perception that LINC was not neutral. LINC's acquisition of clients in order to 'jump start' its network simultaneously restricted the company's future growth possibilities.

Moreover, LINC's owners, who were in the same business as LINC's clients, competed directly with LINC's other potential clients to get the best producer contracts. This implied that the network participants LINC wanted to serve were competitors, not only with regard to end consumers, but also with respect to producer contracts. Supply chain competition, both upstream and downstream among the importers, thereby complicated the service provider's ambitions to establish a supply network.

4.3 The Finnish market

In 2002, LINC made a serious attempt to enter the Finnish market with the aim of providing a Nordic solution for some of its larger clients. The clients that LINC managed to get in Finland were international producers/brand owners, who did not worry about other importers and the competition between them. LINC's business model never worked in Finland, however, where the firm experienced a third scenario. The domestic beverage importers represented a smaller business than in Norway and Sweden, and a feature of the industry was that one main actor controlled close to 60 percent of the market.

The dominant actor, who could not see any advantages in joining a supply network with other actors, repeatedly questioned LINC's efforts. This actor wanted to use its power and LINC's operations for its own benefit and could not imagine working with competitors. This client quickly incorporated LINC's operations; as a result, LINC ceased to exist as an independent provider and became the main actor's in-house logistics department. From a manufacturer/retailer perspective, competition is a supply chain versus supply chain situation, and cooperation with competitors is questionable. By not accepting the development of a supply network, and instead favoring its own supply chain, the Finnish actor also accepted the

likelihood of less efficient logistics for itself. However, the actor also reasoned that its competitors would become relatively worse off.

5. Discussion

The discussion highlights developments in the different markets and then addresses the study's theoretical implications.

5.1 Norway: Becoming unchained from the chain

By managing a large number of supply chains in Norway, the size of LINC's supply network became very attractive for third-party distributors and for factoring services. With only five years of operations, LINC had become the second-largest purchaser of physical logistics services in the Nordic region (Norway, Sweden, Denmark, Finland and Iceland) and the largest buyer of factoring services in Norway.

From a resource standpoint, the fact that LINC managed over 30 supply chains became a core strategic issue, not only for the logistics service provider, but also for the individual chains/clients, and the 3PLs and other mediators in the supply network. The Norwegian market thereby illustrates a scenario that has few tensions between the preferred structures of the product owners (clients) and those of the logistics service provider.

5.2 Sweden: Limited network success

Sweden seemed to have some potential for LINC's supply network ambitions, but the development became hampered by the provider's acquisition of certain client importers. LINC tied itself to the value chain logic of its customers and the acquisitions added to an already competitive climate between the Swedish importers (that is, competition between

their supply chains). Some importers did not feel that the supply network was neutral and feared that LINC would favour the supply chains of the acquired firms. A significant proportion of potential clients did not perceive the alternative idea structure, based on network externalities and the pooling of resources between supply chains, as a trustworthy alternative.

5.3 Finland: Firmly chained to the chain

LINC tried to deviate from conventional supply chain management, with varying degrees of success in the different markets. In terms of idea structures and activated structures, Finland illustrates a setting in which the provider had to give in to the structures that the dominating actor preferred. The tension between the logistics service provider's preferred network structures and the traditional value chain emphasis on supply chains is clear. By making LINC an acquired in-house logistical operator, the market leader increased its own supply chain power at the expense of potential supply network gains.

5.4 Theoretical implications

This section considers the 4 Resource Interaction dimensions in traditional supply chain management and from a logistics service provider viewpoint. The latter issue is addressed by developing cell 4 in Figure 1; that is, the right-hand column of Table 1 combines insights from value configuration analysis and industrial network reasoning.

Please insert Table 1 about here

5.4.1 Resource Interaction dimensions in traditional supply chain management

In line with the principles of the value chain and its associated sequential supply chain structure, Narayanan and Raman (2004) emphasize the need to make individual firms in a

supply chain pull in the same direction in order for the chain to stay tight. This was the large actor's concern in Finland – for *its* logistics operations in *its* supply chain. This reasoning is core to traditional supply chain management, which assumes the focal business units, the so-called primary actors, to be the product owners; that is, the manufacturers or retailers and *their* supply chains.

Indeed, according to a recent development of supply chain management, today's fundamental strategic business unit is the supply chain. As the introduction to this paper noted, there is an increasing belief that supply chains are beginning to displace firms as the logic of competition (e.g., Ketchen and Hult, 2007; McCarter and Northcraft, 2007). This development explains the emerging notion of *strategic supply chain management* (Hult et al., 2004; Hult, et al. 2007). The traditional view of supply chain management is of a support function that helps organizations (i.e., manufacturers or retailers) implement their strategies. Strategic supply chain management is a means of enhancing key outcomes that drive firm performance (again, the performance of logistics clients): "... strategic supply chain management elevates supply chain management from a *function that supports strategy* to a *key element of strategy*" (Ketchen and Hult, 2007: 574, original emphasis).

Similarly, consider Fisher's (1997) main question in the article, entitled "What is the right supply chain for your product?" For whom does Fisher intend this question? In terms of relevant business units, he appears to be directing the question at a manufacturer or a retailer interested in considering *its* supply chain. The product is a physical product in accordance with the value chain's emphasis.

5.4.2 Resource Interaction dimensions and the supply management of Logistics Service

Providers

From a logistics service provider perspective, the expression 'strategic supply chain management' is peculiar in terms of the emphasis on the chain and to the strategic nature of the constellation. As this paper has already noted, the expression clarifies that the focal business units are the manufacturers/retailers and their supply chains. Moreover, for many logistics service providers, supply (chain) management has always been strategic; it is their core business.

To paraphrase Narayanan and Raman (2004), both the value network model and industrial network reasoning guide a logistics service provider to create activated structures in which several chains pull in the same direction (in comparison with several firms within a chain). Either deliberately or otherwise, manufacturers often cooperate in delivering the product to the market place by sharing logistics services. Thus, from the perspective of many providers, the main issue is not competition between different chains, but how to create cooperation between chains. While a manufacturer or retailer focuses on building trust within its chain, the logistics service provider must consider trust building *between* different chains. This was another key challenge for LINC in Sweden.

Competition between logistics service providers occurs on a network level of analysis; between supply networks operated by different providers. The current trend of stressing supply chain competition rather than firm-level competition may be true for manufacturers and retailers, but not necessarily for logistics service providers. In addition, logistics service providers also face challenges from the various idea structures and activated structures that

guide their own business and their customers' business, respectively. This applies when the value chain logic dominates the provider's network ambition, as the Finnish case illustrated.

The product dimension reveals that Porter (1985) does not provide a generic view of competition when he suggests that the value of the product in the marketplace is the vehicle that creates differentiation from competitors' products. His recommendation focuses on competition between manufacturers/retailers; that is, product owners.

A more appropriate alternative for a logistics service provider is to stress that *the set of relationships constituting the supply network is the vehicle that creates value and differentiation from competitors' supply networks*. As one manager expressed in Dewar and Rao (2006: 7) with regard to the business of UPS, "There is no product, only delivery." Logistics service providers are in the business of competitively detecting and exploiting supply chain interdependencies. The structures that become activated through relationships, in order to facilitate client interdependencies, are integral to the logistics product.

Correspondingly, when asking a logistics service provider the equivalent question, one must turn Fisher's (1997) query around completely, from "What is the right supply chain for your product?" to "What is the right product for your supply network?" This question is essential and forms part of the network externalities argument; the addition of one more product (or client) that corresponds with the standardization and planning efforts already present in the network increase value creation potential.

Consequently, network externalities influence the distribution efficiency of a product, since this efficiency depends on the number of corresponding products with which the

mediator has been able to combine a particular product. This reasoning further implies that the use of facilities also mirrors this reality. In other words, the value of a facility depends on the number of business units using the facility.

5.5 Combining value configuration analysis and industrial networks

Håkansson and Waluszewski (2002) stress that, in order to understand the interactive dimensions of resources, one must consider how they work in relation to other resources and how they are viewed by different actors. In line with such reasoning, the present study contributes with a focus on the integration and management of logistics and manufacturing. That is, the study highlights business units' idea structures and resource interactions.

Using the 4 Resource Interaction model to address supply management from a logistics service provider perspective, a number of issues deserve further attention. These include the mediating nature of the value network model and its view of network properties in single chains, as well as the industrial network emphasis on systematic resource combining and systematic networking.

Logistics service providers traditionally have the role of support actors with restricted value-adding potential, while the supply chain entity becomes increasingly important. The fact that existing studies of logistics actors and networks do not examine the implications of indirect relationships and the mediating roles that are part of logistics service providers' resource sets and activities serves to maintain this paradox (cf. Selviaridis and Spring, 2007). However, the way in which these actors handle the effects of the total network of relationships is of basic importance for their strategic edge (Hertz and Alfredsson, 2003).

Industrial network scholars stress the importance of understanding relationships from the perspective of ‘the other’. In that respect, value configuration analysis brings a coherent idea structure to the supply literature in the value network model. Placing mediation (rather than production) at the forefront obtains an alternative view of logistics service provider roles and value creation logic that suits their activities and resource views. In other words, where industrial networks add to the understanding of interdependent supply chains, value configuration analysis provides an alternative understanding of the provider itself. The value network model also helps in the consideration of multiple boundaries of the firm (cf. Araujo et al., 2003), including the claim that even single supply chains have network properties beyond the traditional upstream and downstream boundaries.

Value configuration analysis, in turn, benefits from the emphasis on systematic resource combining and systematic networking. The systematic combination of resources becomes particularly pronounced for mediators such as logistics service providers. This claim is relevant for most firms, and particularly true for the logistics service provider, considering the argument that the basis of its ‘product’ is access to a broad set of resources, both inside and outside its own boundary. Similarly, the expression ‘systematic networking’ – that is, using existing relationships to influence other relationships – is not only important for technological development as such, but is fundamental for firms that rely on a mediating technology, as the value network model portrays.

6. Conclusion

In the past, supply research has combined insights from both value configuration analysis and industrial network reasoning. Dubois et al. (2004) and Håkansson and Persson (2004) refer to both dimensions when broadening the scope of existing supply chain

interdependencies, while Huemer (2006) uses both approaches to discuss alternative views of value creation and supply network structures.

The present study has used value configuration analysis and industrial network reasoning to further unchain logistics service providers from the traditional structures of supply chain management. Traditional supply chain management provides a limited view of supply relationships with roots in a conventional industrial logic, focusing on the physical product, chain relationships, and sequential interdependencies. This view offers a restricted understanding of firm boundaries and the scope of cooperative advantage. Arguably, acknowledgement of logistics service providers' own strategies, structures, and resource perceptions leads to better understanding of how the providers create value and interact with the strategies and structures of their clients.

Managers are likely to feel that the value chain provides a powerful and influential idea structure; unchaining supply management conceptually is different from succeeding with supply management in practice, as the present case illustrates. When interacting with clients, logistics managers may acknowledge that their own business model differs from that of their clients. In other words, the traditional structures are good tools for logistics managers to understand how the clients perceive their business. However, these frameworks do not necessarily inform logistics firms about their own strategic development. This includes their resource strategies and trust-building efforts (for instance, how to balance interdependence between chains while maintaining their image as an independent neutral actor).

The understanding of transportation, distribution, and logistics activities benefits from the value network's emphasis on mediation. The alternative framework of supply management

that this paper outlines also indicates, more broadly, that there may be a need to reconsider the strategic management of logistics service providers. Research into various kinds of logistical and network set-ups, acknowledging multiple perspectives on idea structures, and associated activated supply structures may contribute to an understanding of how logistics actors create value.

Accordingly, future research could consider different settings and take the perspective of different actors further. In this study, the logistics service provider encountered clients with three different interpretations of the value chain logic. A topic of interest, therefore, would be to consider how clients' characteristics influence the emergence of logistics networks. Such research could investigate what makes competing supply chains cooperate regarding logistics, and if increased demands on sustainability will force dominant value chain operations to cooperate with smaller actors in order to make logistics more environmentally friendly.

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Figure 1: Idea structures and activated structures in supply management.

IDEA STRUCTURES	Value chain	<p><i>Traditional Supply Chain Management:</i></p> <p>Manufacturer/retailer</p> <p>Supply chains consisting of sequentially interlinked value chain operations</p>	1	2	<p><i>Industrial networks:</i></p> <p>Actor role based on position, often analyzed from a manufacturer's viewpoint</p> <p>Interdependencies among chains</p>
	Value network	<p><i>Value configuration analysis:</i></p> <p>Mediator/Logistics service provider</p> <p>Networks in single chains. Layered networks</p>	3	4	<p><i>Value configuration analysis & Industrial networks:</i></p> <p>Multiple perspectives on idea structures and activated structures</p>
		Supply chain	ACTIVATED STRUCTURES		Supply network

Table 1: Traditional supply chain management and a logistics service provider perspective.

Resource dimensions & technologies	Traditional supply chain management	Supply management from a logistics service provider perspective
<i>Technology</i>	Long-linked	Mediating
<i>Business Units</i>	<p><i>Single-actor level:</i> Manufacturer and retailer</p> <p><i>Interorganizational level:</i> Supply chains characterized by sequential interdependencies</p>	<p><i>Single-actor level:</i> Logistics service provider/mediator</p> <p><i>Interorganizational level:</i> Supply networks characterized by pooled, sequential, and reciprocal interdependencies</p>
<i>Relationships</i>	<p>Interlinked value chains forming a value system/supply chain</p> <p>Competition between supply chains</p> <p>Cooperation and trust building within supply chains</p>	<p>Layered network structures creating supply networks</p> <p>Competition between supply networks, or between the value chain and value network idea structures <i>within</i> a supply network</p> <p>Cooperation and trust building between supply chains</p>
<i>Products</i>	Physical products associated with production economies of scale	Delivery through the connection of customer sets associated with demand-side economies of scale and positive network externalities
<i>Facilities</i>	An emphasis on efficient and sequential use of production facilities	An emphasis on pooling distribution facilities