Value Creation Strategies in Supply Networks: The Case of Logistics Service Providers

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Abstract

Realising how firms create value is important for the understanding of how competitive advantage is achieved. This study is undertaken from the viewpoint of the providers of logistics services, and it is suggested that the ways in which logistics service providers create value is insufficiently understood. The paper combines insights from industrial network theory and strategy theory and joins these with supply chain literature. Different value creating strategies for logistics actors in supply networks are discussed, and differences between supply chains and supply networks are highlighted.

Key-words: value creation, logistics service providers, supply networks, interdependencies.

Introduction

The purpose of this paper is to add to our understanding of how logistics service providers, acting in supply networks, create value. Previous research has not focused extensively on outsourcing of logistics services from the providers' point of view (Berglund et al 1999). This paper takes such a perspective, and the following interrelated assertions motivate the approach:

1. *There exists alternative modes of value creation.* The value chain logic has dominated our understanding of the activities and their linkages that explain the creation of value (Porter 1985). Recently the universal applicability of the value chain has been questioned, and other models have been suggested in order to capture alternative activity sets and constellations (Stabell and Fjeldstad 1998; Normann and Ramirez 1993).

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2. *It is unclear how logistics service providers create value.* Previous research gives the impression that the value chain logic governs value creation among logistics service providers. Even when other value creation modes besides the value chain is acknowledged (which in itself is a very recent occurrence), it is questionable whether logistic firms are associated with the most proper mode of value creation (see Lazzarini et al 2001). However, the different demands on third party logistics firms and basic services such as transportation and public warehousing (Berglund et al 1999) indicate a need for different types of value creating constellations. Similarly, the roles played by different types of logistics service providers discussed by Persson and Virum (2001), implicitly suggest that the value chain logic will be useful to various extent, and thereby illustrates the need for complementary models.
3. *The notion of supply networks, in addition to supply chains, helps to understand value creation of logistics service providers.* The value chain logic dominates not only the view of value creation among logistics service providers, but also how value in general is created in supply chains. Moreover, from a value creation perspective, it is justified to acknowledge a wider set of interorganisational relationships than is commonly the case in supply chain research.
4. *Activities and resources need to be considered simultaneously in order to understand how value is created, and hence how a competitive advantage may be obtained.* It is a tendency in contemporary strategy theory to emphasise either the activities it conducts, *or* the resources of a firm when explaining the origins of firm competitive advantage. The activity perspective has traditionally incorporated the notion of value chains, recently complemented by the notions of the value shop and the value network as previously mentioned (Porter 1985; Stabell and Fjeldstad 1998). The resources, i.e. what a firm may access through internal ownership or relationships with other actors, cover both tangible and intangible dimensions where the latter form increasingly is seen as the main source of competitive advantage (Penrose 1959; Itami 1987; Barney 1991).

These assertions motivate the employment of the following theoretical perspectives: The industrial network tradition (e.g. Håkansson and Snehota 1995, Gadde and Håkansson 2001), suggests that firms successively are bound together in three dimensions. Their *activities* can be more or less integrated, their *resources* more or

less extensively combined, and the participating *actors* interact more or less. Companies today are involved in complex activity and resource structures characterised by substantial interdependencies (Gadde and Håkansson 2001). The work of Thompson (1967) has been a central source of inspiration for industrial network scholars (Håkansson and Snehota 2000). However, value creation in industrial network studies has commonly related to Thompson's (1967) long linked technology - characterised by industrial firms producing tangible products for which the value chain model is appropriate. This study includes other type of interdependencies. It combines insights from industrial networks with recent strategy theory (e.g. Norman and Ramirez 1993, Stabell and Fjeldstad 1998, Ramirez 1999), and joins these with the supply chain literature.

Empirically the paper illustrates a supply network by focusing on one focal firm, LIAS, acting as a FPL (fourth part logistics) service provider.[1] LIAS is a firm that manages other firms' supply chains. In order to better understand the value creation strategies of actors in supply networks, a basic point of departure is that the nature of interdependencies that characterises the various relationships must be considered.
The paper is foremost conceptual and employs the case as an illustration of the theoretical arguments being made. This particular study is part of a larger project on supply chain management conducted at the Norwegian School of Management BI (see Persson and Grønland, 2002).

The figure below illustrates the methodological process.

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Insert Figure 1. about here

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[1] FPL may also be coined administrative logistics. Third part logistics (TPL) activities are defined as activities carried out by a logistics service provider on behalf of a shipper and constituting of at least management and execution of transportation and warehousing (if warehousing is part of the process, Berglund et al 1999).

The project involves researchers using various theoretical perspectives, and a particular focus has been to study logistic actors in supply relationships. Five focal firms have been part of the project, LIAS being one of them. The five firms were originally chosen depending on the type of network structure they operate in. The participating researchers initially developed a common understanding of the supply chain management literature and the initial interviews were based on a common interview-guide. This paper deals specifically with a strategic perspective on supply chain management. In addition to the common interviews conducted, this paper draws on two additional interviews (one face to face, one telephone) with the CEO of LIAS. Further company and industry information has been obtained from company records, business press and the Internet.

The subsequent section present theoretical perspectives on supply relationships and value creation. Thereafter follows a presentation of the study's focal firm, LIAS, and its work in a supply network. A discussion on value creation among logistics service providers follows.

Theoretical Perspectives on Supply Relationships and Value Creation

This section covers topics on supply chains and supply chain management, and continues with the notion of supply networks. Different views on value creation and the nature of interdependencies in relationships follows.

Supply chains & supply chain management

The notion of supply chains has recently been given increased attention. This is explained by the argument that individual businesses no longer compete as solely autonomous entities, but rather as supply chains (e.g. Drucker 1998). The traditional picture of supply chain structures usually begins with the manufacturer, moves on to the warehouse and distribution centre where products are stored, then to the retailer to meet orders and finally the consumer (Lamey 1996).

The concept of supply chain management has its roots in the 1960s concept of logistics management (Lazzarini et al 2001), and is also perceived as an extension of logistics management (Christopher 1998). Logistics is primarily concerned with

optimising the flows within one organisational system. Supply chain management builds on this framework and seeks to achieve 'linkage and co-ordination between processes of other entities in the pipe-line, i.e. suppliers and customers, and the organisation itself' (ibid. p. 17). Likewise, Lazzarini et al (2001) argue that supply chain management is a planning tool that seeks to develop a system wide integrated view of the firm. Supply chain management thereby extends the concept of logistics management to external integration of the firm.

Despite this extension, the common opinion is that supply chain management issues concern the flow of goods - Lamey (1996) suggests that the supply chain is the flow of goods from the manufacturer to the retailer, supported by the flow of information between each participant in the supply chain. Aitken (1998) argues that supply chain management is to manage and improve the flow of materials and information from suppliers to end-users, and Christopher (1992), points out that supply chain management is the same as managing upstream and downstream relationships with suppliers and customers. Similarly, Gadde and Håkansson (2001) stress that the flow of physical goods becomes essential from a supply chain perspective. According to Omta et al (2001) supply chain management aims at the integration of business planning and balancing supply and demand across entire supply chains. Typical features of supply chain management are the involvement of many organisations, management of interorganisational relationships including integration and coordination, and finally that the aim of supply chain managers should be to build value for participating actors.

The focus on value creation is present also in Christopher (1992) when suggesting that value added as well as cost reduction contribute to the competitiveness of entire supply chains. Similarly, Christopher (1998), point out that the main focus in supply chain management should be 'to achieve a more profitable outcome for all parties in the chain' (ibid. p. 18). Lambert et al's (1998) focus on supply chain management processes involve the activities that add value to customers.

In line with these arguments, Handfields and Nichols (1999) point out that proper management of supply chains is a source of sustainable competitive advantage. However, despite the fact that supply chain management issues frequently are

described as being of a strategic nature, the literature has so far incorporated few insights from strategy theory (Persson 2002). This is an argument further developed in this paper, with a particular focus on how value is created from the viewpoint of the logistics service provider. Before turning to strategy theory to study further models of value creation, the subsequent section will address an extension of the supply chain literature from an industrial network perspective.

Supply networks

In line with the industrial network model, business relationships, including supply chain relations, are outcomes of interaction processes where both sides try to influence one another. Any relationship consists of a combination of activity links, resource ties and actor bonds that together with other relationships form network structures.

Christopher (1998) also indicates that supply chains could be viewed as networks, and Omta et al (2001) suggest the concept of supply networks tries to integrate the network and supply chain approaches. By using Benetton and Toyota as examples of hubs facilitating and coordinating the flow of information in large supply networks they suggest that a supply chain can be considered to be a special form of supply network. In such a case the interorganisational relationships between the upstream and the downstream partners with the focal firm are of dyadic form.

From an industrial network approach it is argued that the supply chain perspective contributes substantially to our understanding of efficient flows of materials but it fails to consider that relationships are not independent, but embedded (Gadde et al 2002). Hence, from an industrial network perspective, the supply chain concept is problematic. It is acknowledged that supply chains are important, but the network model suggests that there is risk in overemphasising the chain aspect. There are good reasons to include all the other branches of the network in the analysis, since a strong focus on the chain may lead to isolation from a wider network structure.

It is seldom the case, Gadde and Håkansson (2001) argues, that a relationship is firm A to firm B, as the supply chain management label indicates. Rather, there are networks of relationships wherefore Supply Networks, and the management of such

networks, would be a more illuminating label. Efficient supply chains require not only the involvement of direct suppliers, but also suppliers to the suppliers should be integrated in the activity sets to avoid sub-optimisation. The idea of a supply network captures how to develop appropriate relationships with suppliers and combining these relationships into efficient supply networks.

Industrial network scholars have successfully highlighted the necessity of including a wider set of actors in order to understand value creation among firms. However, research conducted within this research tradition has, in line with the literature on supply chains and supply chain management, focused less on the nature of interdependencies existing between these network firms. Most studies has, implicitly or explicitly, focused on value creation that is best characterised by sequential processes where a long linked technology is employed. This is the essence of the value chain model, which is further described below.

Value models and firm interdependencies

The value chain model (Porter 1985) dominates as a tool for the strategic analysis of firm value creation and as a conceptual map for the description of activities actors perform in interfirm relations. Basically, the value chain model is a way to catalogue the kinds of activities that add value. It is apparent that this model has had great impact on the field of logistics and later on supply chain management with its explicit emphasis on activities such as inbound logistics (raw materials handling, inspection of materials, warehousing, etc) and outbound logistics (order processing, shipping etc).

The value chain is particularly apt for firms using a long linked technology, where interdependencies are sequential and tasks are accomplished serially (Thompson 1967). The output is often standardised and characterised by repetitive tasks. It is basically a question of conversion of raw materials into finished products. Examples of such firms are automobile manufacturing (assembly lines) and chemical processing firms.

A result of the model's acceptance is that researchers and practitioners alike tend to capture their understanding of value creating activities in terms of the value chain.

For instance, much business analysis has focused on improving position of the firm relative to its competitors by benchmarking its performance against the primary activities of the value chain (Afuah and Tucci 2001). As argued by Stabell and Fjeldstad (1998), such a focus forces the benchmarking firm into a business model centred around manufactured goods. The value chain metaphor has received criticism from various scholars for some time. Normann and Ramirez (1993) and Ramirez (1999) point out that this way of thinking has its roots in an industrial economy. An alternative is to think in terms of value co-production taking place in various value constellations.

Building on among others Thompson (1967), Stabell and Fjeldstad (1998) present two concrete value constellations, or alternative activity sets, captured in what they call *value shops* and *value networks*. The value shop model builds on an intensive technology that is oriented towards solving highly specific problems. The word intensive signals that the choice of techniques needed to solve a problem is based in an iterative fashion on the progress made toward solving the problem. Firms using this technology are often based on service provision. The value shop firm must first determine what the customer wants from a much wider set of possible solutions that a value chain firm normally considers. It is not a question of producing anything in particular, but working in real time on what the customer really wants and finding a way of fulfilling this need. The value creation logic of these firms build on an information asymmetry between the client having a more or less unique problem, and the provider of the solution. Essential primary activities in the shop model are not those that address the manufacturing of goods, but problem finding and acquisition and problem solving activities. Firms using a value shop logic are for instance consultants, law firm and designers.

Another group of actors are intermediaries using a mediating technology. These firms provide the service of a connection between two or more customers who wish to be interdependent. This is the essence of the value network model, and firms following this logic are suggested to depend on still another set of activities. Value network firms acts as brokers by bringing buyers and sellers together, and that is foremost how the value network firm creates value and makes money.

Rather than having a conventional focus on logistics such as the importation and delivery of raw materials and how they are transformed into finished goods, the value networking firm must concentrate on the following primary activities: (1) network promotion and contract management (promoting an building the network by acquiring customers and managing contracts for service provision. The management of contracts involves the initiation, maintenance and termination of contracts to provide whatever service the intermediary proposes to furnish); (2) service provisioning (linking people in the network and collecting payment from them for making the connection); and (3) infrastructure operations (depending on the service provided, the intermediary will rely on resources such as switches and distribution centres for telecom providers, branch offices and financial assets for financial services companies, and warehouses and vehicles for logistics firms). Examples of inter-mediating firms are real estate agents, telecom companies, and not least several types of logistic operators. The following section turns to a firm that arguably creates value according to the value network logic.

Administrative Logistics – The LIAS Network

Supposedly, in 1890 Louis Pasteur said that "wine gives strength, pleasure and joy in living". In order for consumers of wine to realise these benefits (and possible some less valued and not intended side effects), an entire network of actors need to allocate and mobilise a vast set of different resources, and engage in a variety of activities.

Depending on the actor is question, the resources it needs to access and the activities it must carry out in order to create value will vary considerably. This is a statement that arguably sounds plausible. It appears obvious that a wine farmer needs other resources and skills than a firm focusing on importing consumer goods or a logistics service provider. Similarly, it is quite evident that they perform different activities.

Wine is perhaps the most varied drink in the world. Its character depends on critical resources such as the condition of the soil, the climate, the grape variety, the lie of the hills and the location of the vineyard. Commercial wineries need crushes, drainers, presses, centrifuges, filters, membrane filters, pumps etc. The expertise of the winegrower can greatly affect the quality of a wine, i.e. how the final consumer experiences it in terms of look, smell and taste.

The production process of wine making include activities such as harvesting, methods of vinification required for different grape varieties, juice conditioning, acidity adjustments, various treatments of wines including fining (adsorption), clarification, refrigeration, filtration, ion exchange, and a systematic overview of operations such as bottling and packaging.

An importer of wine relies on resources like relationships to wine producers and distributors, knowledge about export and import regulations, besides an understanding of customer tastes, in order to be able to carry out its core activities. It is beyond the scope of this paper to describe the whole network of actors, their resources and the activities they perform, in order to make wine accessible to end consumers. Instead, this section will focus on one focal firm, LIAS, which is an integrated logistics service provider, specialising in two core business areas-Alcohol and Fast Moving Consumer Goods (FMCG).

The LIAS story begins one day in 1996, when the firm managed the distribution of 534 bottles of alcohol for the Norwegian Vinmonopolet (Wine-monopoly). Today, LIAS has developed itself to become the second largest distributor to the state owned monopoly. It handles 40% of what the Norwegian people consumes in terms of wine, beer and spirits from the shelves of Vinmonopolet.

On behalf of its clients, LIAS annually invoices goods worth about two billion NOK, distributed over 30 thousand shipment orders. To ensure that the service levels comply with agreed standards while still keeping tied up capital at a minimum, skilled logistics co-ordinators closely monitor the supply chains for about twenty trading companies, and issue roughly 10 thousand purchase orders, to more than seven hundred suppliers world-wide. To ensure cost efficient supply chain management, LIAS has developed an integrated management system, including web solutions and electronic data interchange solutions (EDI).

The firm's results are rather impressive. LIAS has never grown with less than 20% annually since 1996. In 2000 the firm expanded with 30 % in a market that grew with

8%. 2001 resulted in a growth of 86%. LIAS is the largest fourth part logistics operator (FPL) in the Nordic region and has 28 employees (in Norway).

Since its establishment, LIAS business idea has been to develop relationships to partners specialising in physical distribution such as warehousing and transportation. It has thereby been possible for LIAS to concentrate on and develop its core competence in administrative governance of physical-, informational- and payment flows between its clients and their suppliers. The firm manages the flow of goods from producer all the way to the end consumer. It governs, controls and performs activities alone and with help of suppliers for entire supply chains.

The figure below provides an illustration of LIAS' supply network.

Figure 2. A simplified view of LIAS' supply network (Alcohol)

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An example of a tangible product in the business area Alcohol is of course wine. Before reaching the end consumers, the wine is first owned by wine farmer, then the importer, and finally Vinmonopolet. LIAS does not own any of the products, nor is it in any way responsible for or active in the production of the products. Importers (i.e. LIAS customers in the business area Alcohol) and wine farmers decide on product range and price. The importers have direct contact with their suppliers (i.e. wine farmers). Once the importers have a contract, they will contract on logistics services with LIAS. These contracts usually run for one to two years. LIAS in turn will contract with their suppliers for all physical movement of the goods.

Hence, LIAS 'product' is integration of supply chains so that an optimal flow of goods, profitability and quality is achieved for the parties involved. LIAS' concept is built on the idea that integration across all actors is essential in order to improve a match between resources and activities. It is LIAS intention to improve efficiency and profitability in the supply network by coordinating and managing linkages between activities and resources. In so doing, LIAS outsources all physical logistical operations to TPL (third party logistics) providers, distributors and warehouse operators, whereas all activities having anything to do with governance of the supply network that concerns quality of delivered products, are to be performed and developed internally. LIAS has contracts with its suppliers that run for two to three years.

The most important suppliers to LIAS are those who run warehouse hotels, and actors responsible for inbound and outbound transportation. Danzas is a key supplier for storage and warehousing, Kingsrød and Lysline are examples of firms used for inbound transportation. Linjegods is used for outbound transportation where the supplier distributes the goods to LIAS customers' customer, 85% to Vinmonopolet and 15% to wholesalers in the Alcohol business area. The volume that LIAS requires from inbound logistics operators like Kingsrød and Lysline is relatively small, whereas the firm is a more important customer for Linjegods.

Resources and Activities

From a resource based perspective, the combination of tangible and intangible resources helps explaining LIAS competitive advantage. The CEO further illustrates an essential argument from resource based theory when stressing that the mobilisation of human resources in combination with physical resources is necessary for the firm. The most crucial internal resources are linked to governance and information systems. The backbone of LIAS information system is based on an integrated logistics governance system that controls the network's flow of goods, including purchasing, transportation, warehousing, ordering of sales and invoicing. LIAS has together with its system suppliers created a competitive advantage towards TPL actors trying to enter the market for administrative logistics by building capabilities linked to using the systems mentioned above. LIAS set of contracts, or its relationships to both customers and suppliers, besides its negotiating capability are additional important

resources. LIAS' relationship to DNB (The Norwegian Bank), who performs the factoring services for LIAS is also considered to be an important resource, since factoring is an essential part of LIAS' service offering to its clients. However, the CEO of LIAS claims that the only valuable and sustainable resource they have is competence in administrative logistics.

If the only valuable and sustainable resource LIAS has is competence in administrative logistics, the corresponding key activity it performs is mediation. LIAS work with three flows: physical goods, information, and payment. The CEO of LIAS believes in an extreme outsourcing of activities and his organisation focus solely on mediation. The result is that LIAS is the second largest purchaser of physical logistics services in The Nordic region, and the largest buyer of factoring services in Norway (the firm mediates 3 bill NOK through DNB). Additional services considered besides governing payment flows and factoring is IT solutions and accounting services. LIAS will itself outsource these activities and use its relationships to e.g. banks and IT firms. In line with is strategy, the firm would use its mediating competence to offer its customers financial services based on its relationship and its economies of scale.

The activities performed are, as such, not any different from other supply chains, but together they form a unique blend. LIAS is an example of advanced supply network management performed by integrated governance of several actors and activities where the set of actors in the supply network all performs different and important roles.

Roles and Relationships in the Supply Network

From the presentation above it becomes clear that LIAS benefits from economies of scale (through outsourcing of all physical logistics activities) that the firm uses in order to improve efficiency towards its own customers. Costs associated with transportation, storage and distribution, are kept at competitive levels through an advanced logistics management structure.

A TPL operator owning physical resources can make a profit by selling a transportation service from A to B. For instance, Danzas has an interest in owning and managing warehouses, in owning and managing trucks and terminals. They use their

own physical resources in order to produce logistic services, the LIAS CEO argues. From LIAS perspective, such a strategy would make it impossible to optimise the flow of goods for its customers. LIAS can buy this type of service from someone, but cannot add value to it. LIAS in independent in terms of physical assets and can utilise relationships to specialists in every area. Having a core competence of running physical systems is different from administrating a network. LIAS adds value by administrating goods coming in from abroad, matching these with goods already in Norway so that it in the end becomes a set of packages that can be transported from A to B, and finally by adding payment services.

The CEO of LIAS further stresses that a key strategic decision is to make a choice, in every business area, as to who the customer is. LIAS is aware of its role in the supply network, and is conscious as to how this role and its relationships vary in different situations. As has been mentioned above, in business area Alcohol LIAS considers itself to have one main customer-the importer of wine (LIAS thereby has some 20 customers in this business area).

If LIAS would go for direct contracts with the suppliers, i.e. the producers of wine, it would ruin its relationships to existing clients. It is not certain that LIAS, with its current systems, could help a wine farmer, but with its present strategy LIAS is seen as an important vehicle for the importer. The only 'direct' contact with the wine producers - an ad to suppliers in business press where LIAS wishes to communicate to the producers that they are the right choice for the importers - is built upon this approach.

LIAS has furthermore made a choice not to have direct contact with hotels and restaurants in business area Alcohol. This, the CEO argues, is up to specialists to manage (e.g. wholesalers and breweries). The choice taken is to not compete with the wholesalers, but to make sure that they support the products that LIAS administers. LIAS has thereby gained the support of several wholesalers, something its largest competitor in the Alcohol area is struggling with. The competitor has chosen to have its own distribution company, and to act as a wholesaler. The result is that the competitor faces problems getting prioritised by other wholesalers since the parties are in direct competition. LIAS has established a triangular web of relationships

between the importer who owns the product and sells this to hotels and restaurants; the hotels and restaurants; and finally the wholesaler. These relationships must work properly in order to get an efficient supply network. A somewhat different picture emerges towards Vinmonopolet, where LIAS delivers directly to its customers' customer.

Hence, if LIAS is to create value for its clients it must use the relationships it has properly. In addition, the customers and markets LIAS intends to work with must fit its current competencies, the systems it has developed, and provide synergies for existing clients. LIAS does not necessarily have to work with wine, as long as packages are similar in weight, size and how they should be handled. Another dimension for consideration is the geographical origin of the products – LIAS must have established channels in the area. This limits possible clients to importers of alcohol or trading firms within fast moving consumer goods (FMCG).

The firm has also begun to establish itself as an actor in the FMCG market. Its brand name has helped it to reach a critical volume for certain FCMG products such as cider and water (in total the firm works with some 40 products in this business area). The new business area has similarities with the logistics of alcohol, but physical logistics suppliers have been required to develop their skills in handling the new goods, e.g. in terms of utilising pallet warehouses and picking areas in warehouses.

Whereas importers of wine are the LIAS' customers in the Alcohol business area, it is not equally obvious or given who the customer is in FMCG. It may be, in accordance with alcohol, the importer. It can also be the supplier of the product. Who the customer is depends on characteristics in the market LIAS operates in, such as the strenght of the brand name. For instance, Tiedemann previously acted as importer of Swedish Match's tobacco to Norway. Tiedemann was then the customer of LIAS. Recently however, Swedish Match's decided to establish its own Norwegian company which implied that Swedish Match becomes customer to LIAS. In general, the importer is commonly a Norwegian actor buying the product and selling it to end consumer, and a typical supplier is brand name owner/producer. For instance, an importer (Ølcompagniet) has a product (Halmstad Cider) and the wholesaler LIAS works with in this case is Narvesen, being considered as the best fitting chain for this

particular product. An important task of LIAS in this business area is to match between primary customers (being either producers or importers) and a second customer set being the wholesalers LIAS work with.

The value creation logic of logistics service providers

The process orientation in logistics makes it natural to focus on logistic activities and processes (Christopher 1998; Gadde et al 2002). The main characteristics of the logistics systems are traditionally presented as two kinds of activities: primary (transportation, inventory maintenance and order processing) and supporting activities (warehousing, materials handling etc). Similarly, supply chain management models often focus on the optimisation of production and operations as a key source of value (Lazzarini et al 2001).

These arguments explain the appeal of the value chain model on logistics operations. There is actually nothing in the preceding case suggesting that the value chain is invalid. It is for instance relevant in the supply network for wine farmers. As been stated previously, we need to consider the actor and the nature of interdependency perceived from a certain standpoint when discussing proper value creation logics. From the perspective of a producer of wine, the decision is one of outsourcing an activity in the value chain. LIAS itself claims that a goal is to ’optimise the value chain to a perfect fit for the customers’ products’. That is to be interpreted as optimising the value chain of its customers. LIAS does so by optimising its own value network.

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LIAS is an example of a value network firm acting as a mediator in order to facilitate co-production and collective value creation in the supply network.

With strong network externalities the value of subscription to the services of a mediator is a function of customer base, or network size and a firm's network is an essential resource. The size of LIAS network makes it possible to utilise economies of scale, and it can offer attractive factoring services. Hence, the value depends on the number of other users that are in the same network.

Value also depends on the composition of the network, i.e. whom or which nodes can be connected. In the LIAS case this is clearly visible when the firm moves further into the FMCG market, actually representing relationship types that LIAS is confined to due to the composition of its network in the Alcohol business area. Hence, LIAS has specialised in the types of customers served and its current systems, its relationships to other layers in the value network (e.g. TPL operators) are dependent upon certain standards. The importance of network composition is visible also in LIAS' pricing strategy, where firms requiring small or modest movements of goods are facing reasonably unattractive price levels. Like an insurance company, certain customers are 'avoided' in order to create the type of network LIAS is best equipped to manage.

Moreover, it has specialised in the form of linking provided by its services. LIAS provides information as a substitute for more direct involvement of the movement of physical goods. Its services are layered since one exchange service uses another exchange service as its medium. LIAS uses other firms operating as value networks as its medium for the movement of the goods, e.g. its outsourcing to Danzas. In, say, electronic banking, the banks use the general telecommunication networks as their medium (see Andersen and Fjeldstad 2002-fortcoming).

LIAS, although being a special case as a FPL operator with rather extreme outsourcing, is not special in terms of how value is created among logistics service providers. Looking at recent work focusing on strategies for TPL operators and growth strategies for logistics service providers, an argument can be made that logistics actors operate (or should operate) according to a different logic than the value chain model proposes.

Berglund et al (1999) explicitly presents a taxonomy for value creation by logistics providers. So-called solution providers ought to focus on clients with rather complex

situations and a low interest for managing logistical activities internally. These firms have skills in analysing and designing logistical solutions. Berglund et al (1999) use the terms supply chain management and supply chain integration to describe activities such as redesign of the distribution network or elimination of storage inventories. These firms rely on conceptual logistics skills to improve the customers supply chains. This type of complex third party logistics solutions appears to rely on a value network logic. Similarly, Persson and Virum (2001) argue that logistics service providers differ in their strategic orientation. Logistics integrators have small or non-existing physical assets. They operate as an external logistics department for one or several customers. They are experts in designing, implementing and operating logistics in a supply chain, sometimes forming advanced logistics networks.

In adition, both Berglund et al (1999) and Persson and Virum (2001) identify logistics service providers that would benefit most from a value shop logic (i.e. these firms do neither produce a product, nor do they mediate or connect between customers sets). Firms providing consultative logistics solutions or logistics agents have no physical assets and perform a specific logistics function or services for their clients. The act as consultants and solve more or less unique problems of a logistics nature.

Another recent example of a supply chain management study explicitly focus on "netchains", i.e. an analysis that interprets supply chain and network perspectives on interorganisational collaboration with particular emphasis on the value creating and coordination mechanisms sources (Lazzarini et al 2001). The netchain idea focuses on several types of interdependencies that may occur in a given interorganisational setting. It is a question of simultaneous consideration of existing interdependencies, where these interdependence not are taken as given. These arguments are well in line with the one's stressed in this paper. However, Lazzarini et al (2001) further suggest that sequential interdependence where one agent's input is another's output, describes supply chains, and logistics firms are once again given as examples of firms using the traditional long linked technology relying on value chain logic. This is appropriate only from the outsourcer's point of view.

Theoretical implications

In the strategy literature the analysis of value creation and the origins of competitive advantage includes an ongoing debate whether activity systems (here described as chains, shops or networks) or valuable resources (commonly intangible resources such as relationships, trust, brand name etc) have most to offer (Ghemawat and Pisano 1999). This either/or debate appears to have been surpassed by industrial network scholars like Håkansson and Snehota (1995) and Gadde and Håkansson (2001). The ARA model suggests that actors, resources and activities need to be considered simultaneously.

This paper illustrates that a clear focus on the actor in question is essential for understanding value creation. Closely linked to the actor focus is an awareness of the type of interdependencies that the actor in question works with. This latter issue is a neglected dimension in previous work on industrial networks. Likewise, it is claimed that previous research on logistics service providers and supply chain management overlooks interdependencies other than the long linked activities described by Thompson (1967). The result is a focus on activities and processes that correspond with the value chain model.

One way of distinguishing between supply chains and supply networks is to analyse the types of interdependencies that exist. It is here suggested that the technology employed in supply chains is given. Supply chains may be defined by the long-linked technology that is employed by firms acting in what Porter (1985) has described as value systems, i.e. a set of connected value chains. Whereas value creation in supply chains equals a value chain logic, the same analogy cannot be made for supply networks. In other words, value networking firms relying on a mediating technology is not the only viable model in supply networks. Interdependencies in supply networks are not given, and supply networks are not captured by Porter's (1985) value system. The analysis of value creation in supply networks must take account of type of activities that various actors' rely upon. These activities may be captured by value chain, value shop or value network models. Acknowledging that supply networks consist of different types of interdependencies opens up new avenues for research in the industrial network tradition.

Practical implications

While there is nothing erroneous with the value creating logic of the value chain per se, it should be acknowledged that employment of a wrong kind of business model may lead to the building of wrong kinds of capabilities (cf. Afuah and Tucci 2001). Managers of logistics service providers (TPL and FPL) need to consider other issues than managers of firms manufacturing products. Logistics service providers serve other firms' value chains, and are part of their supply chains. But the activities of the value chain does not inform managers of logistics service providers of the following:

Building own capabilities is closely related to one of the most important resources that a logistics service provider has – its network. With network is here implied the number and the composition of relationships that the firm mediates between. In the LIAS case both the number and the characteristics of the 'members' of the networks served has an impact on the firms future strategic options. Managers should therefore carefully consider both opportunities and constraints as they develop existing relationships further and set out to engage in new relationships.

Managers are also advised to think not exclusively in sequences, as the value chain suggest, but in layers. This implies that firms' focusing on administrative logistics will outsource back-end operations to an underlying network level. As exemplified in the case, LIAS uses TPL suppliers in moving the goods. This is an explicit and important strategic choice. Initiating and terminating contracts with both customers and other network layers becomes more important than the value chains focus on production efficiency. The focus on economies of scale is still important, but the necessity of composing the network of suitable members is an additional skill that is required. In essence, the value creating potential for logistics service providers depends on the provider's ability to connect actors in its supply network - both customers and suppliers of physical distribution.

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Figure 1: The research process

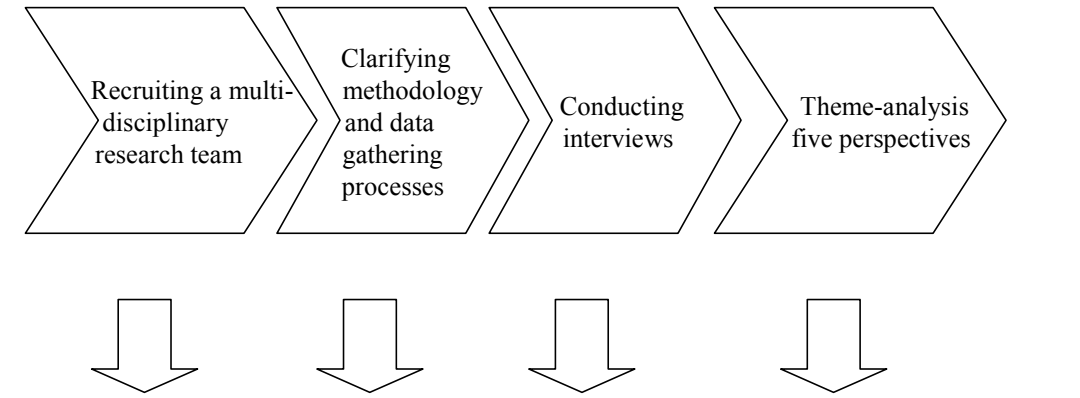

Figure 2: A simplified view of LIAS' supply network

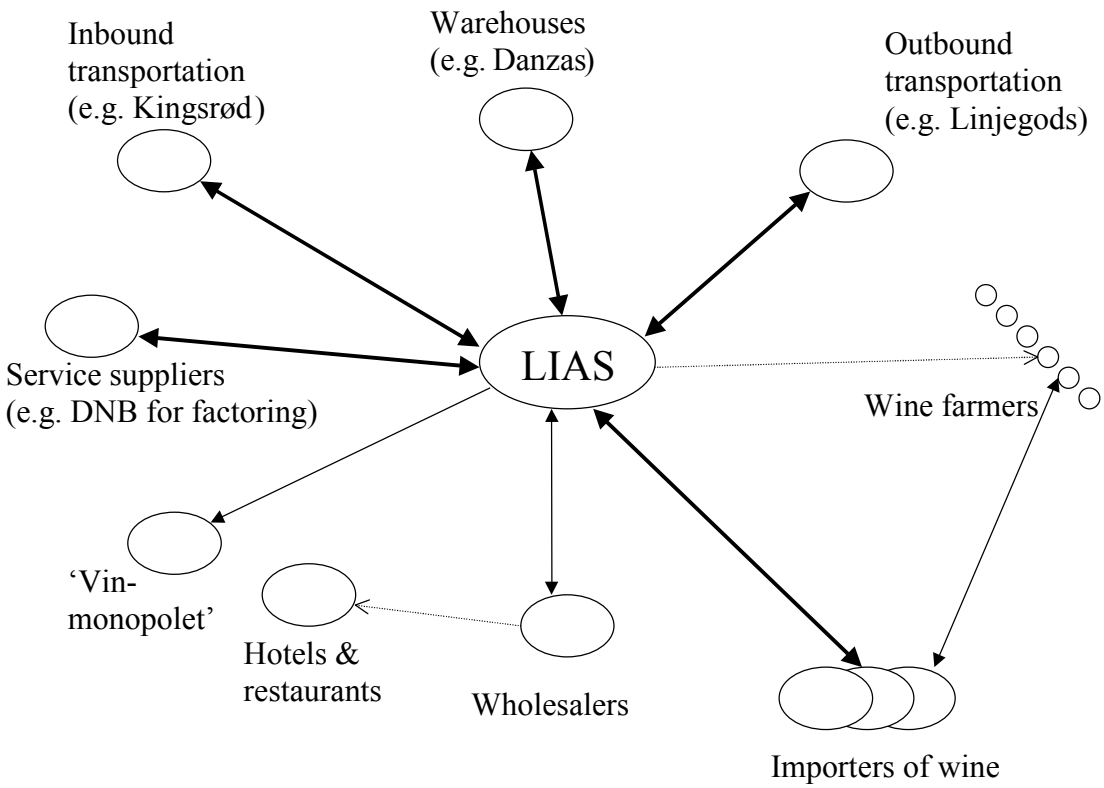

Figure 3: Value Network configuration for logistics service provider