Governance of Supply Chains

Exploring New Competences in the Logistics Industry: The Intermediation Role of 4PL

Networking strategies continue to develop in most industries. They lead manufacturing and/or retailing firms to specialize in a few core competences and to become “brokers” who entrust external partners with peripheral activity management. This is one of the explanations for the rise of logistics service providers (LSPs), described in all modern textbooks dealing with supply chain management. Very recently, a new trend has emerged in Western countries: Some LSPs are becoming brokers, capable of organizing supply chain networks thanks to their perfect command of information systems. The LSPs called fourth-party logistics (4PL) have taken control of the intermediation function, positioning themselves at the heart of the networked economy. The use of the conceptual framework “transactional center” helps to better understand 4PL governance, and more generally the evolution of the logistics industry.

Over the past few years, logistics service providers (LSPs) have become players whose role is essential in explaining and anticipating supply chain governance in most of the Western countries. They are indeed omnipresent in product flow management, from supplier factories to store shelves, including assembly units. The most efficient LSPs are far from restricting themselves to activities of transport and handling of finished goods. On the contrary, they have broadened their value-added services, undertaking activities of shelf display, of site installation, of co-manufacturing, and of wrapping or co-packing (Roques & Michrafy, 2003). This evolution has become well known and given rise to in-depth descriptive approaches in most of the textbooks intended for MBA students. Among the various types of LSP present in the market, a specific category holds particular attention. This is the totally dematerialized LSP, which, without any physical means, develops a customized supply for its customers by mobilizing resources and resorting to different partners, then making sure of its consistency thanks to a total control of information flows. These LSPs are called by the consultancy company Accenture “fourth-party logistics” (4PL), and their business is to design and sell global supply chain solutions coordinating the activities of carriers, storage operators, subcontractors, packaging companies, and other elements of the supply chain. Quite obviously, the emergence of 4PL is a radical change in the LSP role within a network organization. Indeed, it is no longer a matter of a mere

François Fulconis
Assistant Professor,
University of Avignon & Pays de Vaucluse,
CRET-LOG & PRATIC
francois.fulconis@univ-avignon.fr

Laurence Saglietto
Assistant Professor,
University of Nice Sophia-Antipolis,
GREDEG
sagliett@idefi.cnrs.fr

Gilles Paché
Professor,
University of Montpellier I,
ERPI & CRET-LOG
gpache@univ-montp1.fr

Acknowledgements
The authors would like to express their gratitude to Angel Diaz, as guest editor, and two anonymous reviewers of Supply Chain Forum: An International Journal for their valuable comments on a preliminary draft of this article.
logistical support, based on an expertise in flow management. On the contrary, 4PL are developing a capacity for bringing competences together that, when combined, constitute the backbone of the network organization. It is henceforth possible to talk about a new kind of intermediation mission, which increasingly makes 4PL systematically resemble “transactional centers” as Gille (1997) sees them.

The rise in power of 4PL emphasizes the emergence of a network model that is progressively replacing a supply chain-type linear model (Gille, 1997; Nassimbeni, 2004). In other words, the B2B exchange relationships now correspond to an inter-connection of networks in which the main function is to know how to monitor interfaces between supply chain players efficiently. For a long time, numerous observers have considered that primarily manufacturers, and to a lesser extent wholesalers and large retailers, were capable of playing this part. That is probably not true any more, insofar as the 4PL seem to be well-equipped to develop an intermediation activity as well. The line of arguments follows three stages. In the first part, we will show that some LSPs find the means to become network organization “brokers,” using examples stemming from our field studies. It will then be possible to describe in the second part the 4PL, a peculiar element of the logistics industry, as an interorganizational information system (IOS) player. In the third part, we will conclude by referring to the “transactional center” model to give an original conceptual framework explaining 4PL governance.

The LSP at the Heart of Networking Strategies

One cannot understand the recent evolution of the logistics industry without referring to the networking strategies implemented since the 1980s. Indeed, LSPs work nowadays on behalf of manufacturing and/or retailing firms that have chosen to specialize in a reduced core of activities and that entrust other firms with the management #of complementary activities (including logistics). Sometimes, it is even possible to identify hollow corporations, without any physical assets, which market products designed, manufactured, packaged, and distributed exclusively by a network of partners. Thus, networking reveals a dual structure:

- The network core consisting of a firm running the entire system. It has been designated by such terms as broker (Miles & Snow, 1986), hub firm (Jarillo, 1993), or strategic center (Lorenzoni & Baden-Fuller, 1995).

4PL are developing a capacity for bringing competences together that, when combined, constitute the backbone of the network organization.

- A relational space of quasi-integration composed of “satellite” firms, situated above and below the network core within the same value chain (Miles & Snow, 1986; Fréry, 1998). These satellite firms specialize in manufacturing a component, in selling a product, in carrying out logistical services, and so forth.

The broker’s role is first and foremost to manage a value chain. Fréry (1998:71) points out that “it globally plays the same part as the management of an integrated firm as regards its operational functions except that these are assigned to financially autonomous firms.” In such a vision of network organizations, LSPs have only the role of satellites in charge of carrying out logistical operations for the broker, which is supposed to regulate all the flows using specific techniques, procedures, and tools. Faced with the recent growth of the LSP trade, however, a radical change in the LSP’s role seems to be conceivable in the medium term. For the past three years, we have tried to assess this change on the basis of four case studies carried out in the European logistics industry.

Methodological Framework

The research program undertaken by the authors aims at setting up an original method of analysis of network organizations within a supply chain management (SCM) structure. It tries to describe and explain network governance through the interpretations given by the network members. The survey was carried out among firms belonging to the manufacturing, retailing, and logistics industry; in the present article, we will use only information obtained from firms within the logistics industry. The research program grants a special status to understanding the strategies involved; the foreseeable nature of the knowledge is subjective and contextual (Thiétart, 2001). The investigation is based on a qualitative approach, creating case studies that permit the gathering and collection of rich empirical data:

- The qualitative approach. Three reasons justify this choice. First, the research program is exploratory. It does not try to identify economic laws but instead tries to make a phenomenon intelligible. Second, the central question refers to the “how,” more specifically how network members cooperate on a day-to-day basis once they have decided to do so and have implemented coordination mechanisms to obtain a result. Third, in epistemological terms, the objective is to have a better understanding of the studied phenomenon; hence, it is essential to conduct fieldwork (Pettigrew, 1997).

- The research method. According to Yin (1994:13), “a case study is an empirical inquiry that
investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." It is noteworthy that case studies are nowadays considered to be a particularly relevant research method in the analysis of interorganizational issues in logistics and SCM (Ojala & Hilmola, 2003).

- **Data collection and analysis.**
  Gathering data can be divided into two phases: a first one to identify the supply chain members and a second to meet many key informants (top managers from marketing, sales, and logistics departments). Two primary methods of gathering data were used: individual semi-directive interviews, lasting between 45 and 90 minutes, were the main source, followed by studies of internal documents and press reviews as complementary sources. Content analysis was then applied to the empirical data collected, following the recommendations of Miles & Huberman (1994).

The research was carried out following the basic rules used traditionally in interview preparation and result assessment. First, concerning interview preparation, we made the necessary checks to make sure of the way the main concepts were perceived by the key informants interviewed so as to obtain their "critical feedback" on the conceptual analysis. The aim was to avoid any mix-up during the formulation and explanation of the logistical strategies currently implemented by their firm. As a basic requirement, we checked the exactness of the phenomenon studied (4PL development) with the concepts used to define it in the interview guide, in order to reach appropriate external validity.

Second, concerning result assessment, the points reported by Ellram (1996) were used. The reliability is more specifically based on systematically reviewing the internal documents mentioned above and, in three cases out of four, on several on-site visits organized by the key informants. The construct validity relies on the multiplicity of data sources (a large number of key informants hold several positions in several locations) and on a review of a draft of the research results, carried out by these key informants. Finally, external validity relies partly on the fact that the LSPs studied are involved in a large technical and cultural range of supply chains. All the precautions taken during the case studies lead to results of a scientific nature, that is, results that can be repeated, can be generalized, and are cumulative.

The sample is made up of four European LSPs, all of them having international activities. They were investigated over a period of three years. Two LSPs agreed to be named: Groupe Norbert Dentressangle (GND) and Geodis. The two other LSPs preferred to remain anonymous because they are currently undergoing large-scale strategic reorganizations. The same interview protocol was used for each of the four LSPs. It is based on open-ended questions on three complementary topics discussed with the key informants:

- The first topic concerns supply chain structuring in which the LSP plays a part: What are the main business processes, management components, and members of supply chains, according to the meaning given by Cooper, Lambert & Pagh (1997)? What are the dominant types of relationships between the supply chain members (cooperation vs. arm’s-length competition)? What flow monitoring procedures have been implemented to improve supply chain efficiency?

- The second topic deals with managing the relationships between the LSP and its clients: How long do outsourcing contracts last, and to which specific activities do they apply? How are technical and commercial interfaces managed between the supply chain members (key account management)? What kinds of investments are made to improve interface management (specific investments vs. standardized investments)?

- The third topic deals with the way LSP trade is widening toward the specific functions of 4PL: Is it a strategy currently under way and, if so, at which stage is the LSP? What are the difficulties encountered in the process, in technical, commercial, and human terms? What are the new competences required to become an efficient 4PL, notably concerning interorganizational information systems (IOS)?

**The Emergence of 4PL**

What conclusions can be drawn from the survey carried out over the course of three years? Through the function of flow monitoring, the LSP is no longer an underling but a coordinator in charge of managing the supply chain completely. It must be able to advise the customer, choose the software solutions suited to each supply chain function, integrate them, and run them together. These functions could make it a real “competence assembler” within network organizations. Let us consider the case of an LSP working for several customers and imagine that it is in a given supply chain, such as the automotive supply chain. For example, the information it has about this supply chain could lead it to put in touch two firms in order to deliver their own customers at the same time. This is what Michelin (tire manufacturer) and Exside (battery manufacturer) are testing out in the Benelux countries through the intermediary of an LSP. Thus, the LSP makes sure that the basis of its future as a broker is solid because its action permits it to generate a specific investment network that is based on a critical resource: information.

A good illustration of this trend is the development strategies implemented recently by many firms with some LSPs that the consultancy company Eurostaf considers as 4PL. Among them,
Geodis, established in Romania since 1996, has been chosen by Metro, a German cash-and-carry specialist, to carry out its optimized logistics. It won the logistical outsourcing contract in 2004, to the detriment of Dietrich, Metro’s former Austrian LSP. The outsourcing contract makes it clear that Geodis is in charge of implementing a cross-docking system of storage and delivery, as well as of providing a logistical service able to rationalize Metro’s global supply chain in Romania. In order to reach this goal, Geodis focuses on the management of two kinds of flows: (a) a flow of household electrical and hi-fi products coming from Asia and Eastern countries and (b) a flow of convenience goods from domestic suppliers. At the same time, it subcontracted the transport to about 20 local companies. Thus, Geodis is becoming an essential partner for Metro, which leans on its competences to support its international development strategy. Its success in Romania is crucial because that is not only a country where the retailing sector is structuring very quickly also is a real platform to the other central and eastern European countries.

Studying the relationships between the French radiotelephony company SFR and GND, its LSP since 1997, is also very instructive. In charge of product warehousing and transport (which it subcontracts to Jet Service), GND has in a short time coordinated the activities between the company, the mobile phone manufacturers, (Ericsson, Nokia, Motorola, etc.) and the distributors (Espaces SFR, Carrefour, etc.). In this process, it has implemented a dedicated logistics to provide top-quality services. Since then, it has kept on developing, and since 2003 it has taken responsibility for the operations of logistical postponement provided by SFR to its customers. GND says that nowadays, it considers itself to be an organizer of flows and of information system in the global value chain. Thus, as, in a few years, it has acquired a real competitive advantage and a true expertise regarding the management of interfaces in radiotelephony, the LSP, which remains only a mere satellite for the moment, has favorably positioned itself to become a network broker in the future.

The examples of Geodis and of GND clearly show that some LSPs turn out to be true 4PLs, according to the definition of Accenture (see Table 1), and hold an important position in the current reorganization of supply chains. A 4PL can indeed be likened to a coordinating agency (or hub firm) that “need not have any specific resources, capabilities or technology itself, so long as it has the ability to analyze the client’s requirements and take contractual responsibility for delivering to the client an optimized supply chain solution built from the integrated capabilities and resources of its partners” (Bedeman, 2001:13). The emergence of 4PL is perfectly in line with the strategic model prevailing for about 20 years, the one of external resource management and coordination rather than the previous one of vertical integration (Levet, 2004). This coordination requires a “leader” who put partners with embedded competences in contact so as to create the best conditions in which the supply chain can operate.

As Tran (2004) says, one of the main challenges of academic research related to management and industrial organization is to wonder about the identity of this leader, capable of choosing and implementing the suitable tools for a perfect monitoring of operations (e.g., electronic marketplaces). It would be a fatal error to consider that only manufacturers have the means and competences necessary to play the role of hub firm. On the contrary, according to Tran (2004), supply chains are characterized by a high degree of “plasticity”; that is, they split up and re-form quickly, under the pressure of dynamic new

<table>
<thead>
<tr>
<th>Architect / Integrator</th>
<th>Change leader:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- Supply chain visionary</td>
</tr>
<tr>
<td></td>
<td>- Multiple customer relationship</td>
</tr>
<tr>
<td></td>
<td>- Deal shaper and maker</td>
</tr>
<tr>
<td></td>
<td>- Supply chain reengineer</td>
</tr>
<tr>
<td></td>
<td>- Project management</td>
</tr>
<tr>
<td></td>
<td>- Service, systems, and information integrator</td>
</tr>
<tr>
<td></td>
<td>- Continuous innovation</td>
</tr>
</tbody>
</table>

| Control Room (intelligence)   | Decision maker:                                        |
|                               | - Experienced logistician                              |
|                               | - Optimization of decision support                     |
|                               | - Management of multiple 3PL                           |
|                               | - Continuous improvement                               |

| Supply Chain Infomediary      | Information system:                                     |
|                               | - IT system integration                                 |
|                               | - Real-time data capture                                |
|                               | - Convert data to information                           |
|                               | - Technical support                                     |

| Resource Provider             | Assets:                                                |
|                               | - Transportation asset provider                         |
|                               | - Warehouse and property facility                       |
|                               | - Procurement service                                   |
|                               | - Co-packing service                                    |
entrants. These hub firms draw on their command of information systems to make connections easier and to manage interfaces between partners, which are manifestly some of 4PLs’ main know-how. Can we conclude that they will be new entrants in the brokerage market Tran (2004) talks about?

4PL: From Intermediation to Info-Mediation

The evolution of LSP trade highlights the fact that the offerings of these logistics specialists has recently become wider and richer. A 4PL can be in charge of running part or all of the supply chain and can have a single customer and work in one sector. Even if its definition has still not been determined, this designation comprises entities dedicated to managing physical and information flows, LSPs set up exclusively for one customer, or even “no asset companies” (NAC)—that is, companies without material assets that link together all the players in a single supply chain. From a technical point of view, Kivinen & Lukka’s (2002) contribution gives a rather exhaustive picture of 4PL activities and categories. It more particularly lays stress on the 4PL considered as a point of interface in supply chain networks, one that mobilizes various value-added logistical support services in this aim.

The NAC corresponds unquestionably to the most complex and accomplished form of 4PL; it can be considered as the result of a networking strategy similar to the one implemented by some manufacturers (Miles & Snow, 1986; Lorenzoni & Baden-Fuller, 1995; Fulconis, 2004). In our analysis, we put the emphasis on the latter. This brings out the new 4PL’s role an intermediation specialist that creates value by managing information and tends to play the role of transactional center. The objective of the second part of this article is to set up a framework in order to analyze recent changes in LSPs as they come out in the four case studies referred to earlier. To do so, we will turn back to academic literature in the field of IOS; this will help us better understand the informational dimension of the hub function managed by LSPs.

Intermediation Perspective

In a general sense, intermediation is an economic process that consists of finding, among all the different products and services, the one that best meets customers’ needs. It is provided by mediators or middlemen—players able to detect the suitable components to design an attractive offer, at the same time minimizing transaction costs (Dang Nguyen, 1999; Volle, 1999; Vidal & Lacroux, 2000). According to Hackett (1992), intermediation can be carried out by two categories of mediators: (a) “merchants,” who buy and then sell goods according to a process facilitating exchanges between the buyer and the supplier, whose remuneration is a fee linked to the incremental surplus; and (b) “brokers,” who also facilitate exchanges between buyers and suppliers, but without buying or selling goods, and whose remuneration depends on the outcome of the transaction. The first category corresponds to marketmakers, and the second one corresponds to matchmakers. Each of them refers to particular forms of exchange management according to the information gathering, the negotiation process, and the performance monitoring (Baritaux, 2005).

The matchmaker intermediation can be likened to 4PL. An intermediation cost is an initial cost that results from experience (design, negotiations, specification of contracts, and operating methods) and from development expenses (organization and implementation of projects dedicated to customers). In concrete terms, a 4PL can manage the commodity purchases, payment to suppliers, negotiation of the contracts with LSPs, and just-in-time delivery for a customer. It is then considered a crossroad at the heart of the network organization and carries out risk management requiring a high level of trust between its members. In the end, the 4PL represents an elaborated form of outsourcing, one in which it is no longer in charge of the physical distribution of a product but runs the global supply chain and carries out an activity of planning and coordinating the flow of information. It thus provides an engineering service, giving advice about flow organization and management (see Figure 1).

A 4PL can be considered as the representative of a new category of players who act as an interface between producers, distributors, designers, and carriers. Because they do not have any physical means to manufacture logistical services (neither trucks nor warehouses or other assets), their role can be reduced to that of a kind of logistical consultant having to manage logistical flows and choose the most appropriate means for its customers. As such, it is a necessary intermediary that does not depend upon haulage or warehousing companies, for example, but which selects those that provide the best price, the best reactivity, and the best service. Thus, a 4PL’s customers have less, or even no, direct contact with the companies, which, in the end, carry out the logistical operations. In brief, logistical excellence definitely becomes the key element of the transaction efficiency; to reach it, the mediator must both obtain specific information, among clients and among suppliers, and be able to mobilize quality logistical assets (Dang Nguyen, 1999).

It is worth noting that it is mainly large firms that resort to 4PL because they absolutely need to monitor their flow on an

1. Kivinen & Lukka (2002) notably draw a distinction between the pure 4PL (the conventional LSP that has features from 4PL) and the conventional LSP/4PL, which also sells manufacturing services.

2. The merchants correspond to the definition of “broker” given by Miles & Snow (1986); Hackett’s (1992) broker definition follows on the previous one but is more oriented toward IOS.
international scale and they resort to several means of transport (road, sea, and air), all the more so concerning handling and warehousing. That is why logistical outsourcing has been chosen recently by many manufacturers and large retailers during their acquisitions, mergers, and joint ventures. The 4PLs enable them to take up the multiple challenges of globalization, thereby avoiding the difficulties of incompatibility and functioning variety of the supply chains. It is therefore in this area that 4PLs have found a development opportunity as mediators and in which, step by step, they have acquired a real legitimacy. To meet the challenge, it is fundamental to establish coordination and communication across all the different service providers, geographies, time zones, and business units.

Info-Mediation Perspective

To fulfill the mediator mission, 4PLs create electronic links between the supply chain members. They base the development of their activity on three key elements: (a) consultancy, (b) logistical flow monitoring (physical and above all informational flows), and (c) dedicated software development. From this point of view, a 4PL's intermediation activities can be likened to those of IOS (Choudhury, 1991). We must bear in mind that IOS enable, in real time, viewing supply and demand and exchange information, taking the shape of customized groupwares (internal and external). The groupwares create electronic links between the organizations and supply some support for interorganizational processes. These supports bring together the means (“infrastructure”) and rules (“infostructure”) enabling the companies, which have access to carry through common projects as long as they obey the customs (“infoculture”) (Bressand & Distler, 1995).

In the framework of network organizations, it is then possible to hypothesize that 4PLs, through their role of mediator, gather the three main IOS dimensions, to which we will add that of “info-mediation,” which is more specifically dedicated to coordinating logistical operations along the supply chain:

- **The infrastructure.** To increase their bargaining power, 4PLs develop some barriers to entry based on expertise in managing relationships and in carrying out transactions (supply of an enlarged range of services, generating partners’ loyalty and increasing switching costs). According to Bakos & Treacy (1986), this practice, commonly used by IOS, relies on significant investments in information systems.

- **The infostructure.** Relying on sophisticated computerized systems, 4PLs develop tracing processes (memorizing flows from the point of origin to the point of destination) and tracking processes (real-time location of products in the supply chain), as well as segmentation strategies enabling a customized response to customers' expectations (co-packing and co-manufacturing, spatial postponement, etc.).

- **The infoculture.** The 4PLs take part in the broadcasting of common standards and the implantation of logistical services across several supply chains: Controlling legal and regulatory activities linked to flow management, but also carrying out administrative duties and customs formalities, taking into account exchange rate risks, dealing with disputes, and so on.

The 4PLs therefore are involved in a governance based both on the management of knowledge and on a “specialization of architectural competences” that gives them a nodal position in network organizations and, to a larger extent, in the value creation process. It is indeed possible to compare brokers to network architects who, thanks to the informational links established between firms, “actively design, build, and maintain transactional networks through their own strategic and profit-driven activities” (Pollock, Porak & Wade, 2004:51). Generally speaking, 4PLs doubtless can be considered as network architects, as their efficient functioning directly refers to broadcasting an important mass of information and knowledge. It is therefore not at all surprising to see that vendor-managed inventory (VMI) services in particular have been developed by 4PLs over the past few years. Whenever a
The "Transactional Center" Model

According to Gille (1997), transactional centers are defined as organizations able to manage a large number of complex transactions that are nested, staggered in time and space, and highly customized. Such centers are at the heart of the electronic marketplace of many companies functioning in a network pattern since the 1990s, notably in mail order sales, the retailing industry, and banking and insurance companies. The emergence of transactional centers has many elements in common with that of the 4PL, particularly concerning the relocation of the place where power is exercised within industries. Indeed, by trying to develop an identity of competence assembler, 4PLs clearly are attempting to acquire an expertise that leads them to widening their field of intervention in supply chains. The expert power refers here to the seminal work of French & Raven (1959): It is derived from knowledge (or the perception of knowledge) that one of the members of the network organization attributes to another in some given area.

By appropriating the new technological tools and combining them with more conventional means, 4PLs provide a more informational orientation. They aim at basing the string of logistical decisions on an electronic management of transactions, implementing interfaces to connect the management systems of the various members of the network organization. Because the services provided by 4PL are highly customized, they increase the interdependence between the partners, thanks to common informational and organizational standards. According to the IOS conventional nomenclature, however, 4PLs are not strictly speaking electronic marketplaces with universal standards. Indeed, two main characteristics distinguish one from the other:

- **In their intermediation function**, 4PLs bind their responsibility by making a firm commitment, whereas the electronic marketplace can be considered as passive: It facilitates contacts but, unlike the 4PL, it does not take part in the choice of stakeholders.

- **In their transactional center function**, 4PLs display their informational means to monitor flows within the supply chain involving several companies, whereas an electronic marketplace is merely in charge of putting players in contact and of giving its technical support to the bargaining.

Even if they cannot be totally likened to electronic marketplaces, we believe that 4PLs can be considered as the supports of standard exchange, referring to Choudhury's (1991) typology. LSPs' information systems have actually evolved from proprietary exchanges, which are specific to a LSP but cannot be shared with a community of companies, toward the standard exchange, which is also called "electronic brokerage" by Sheombar (1992). In that precise case, the 4PL enables participants, buyers or sellers, to exchange information about all the activities of the supply chain. In fact, it is possible to say that the information system has turned into an information analysis system. The larger the number of partners connected to the transactional center, the richer the information, the more precise the management of activities, and the more efficient the optimization of the different flows (see Figure 2).

Briefly, the transactional center model, as illustrated in Figure 2, places the 4PL at the heart of information flows between producers or distributors and transport companies. Of course, by definition, this is where the 4PL is supposed to be. It is essential to understand that this new vision of reality brings to light a profound break in supply chain governance. Indeed, our four case studies clearly reveal that LSPs, by turning into 4PLs, are acquiring much wider responsibilities in terms of flow monitoring. When a producer or a distributor resorts to a conventional LSP, it wants to remain in control of some of the data, notably marketing data, which it considers to be "strategic." In this case, the conventional LSP is just an underling who receives only the technical data necessary to carry out the various logistical activities for which it is in charge (transport, handling, stock management, etc.). On the
Governance of Supply Chains

contrary, when it turns into a 4PL, the LSP becomes a kind of information hub that has access to all strategic information so that it can improve supply chain performance (sales in outlets, promotion campaign planning, production runs, etc.). That is the reason why all the key informants we met stressed a crucial point: The reliability of the mediations made by 4PL is based on the trust partners have in the mediator’s honesty and efficiency. Benda (2003) puts special emphasis on that point, distinguishing the ex ante transaction from the ex post transaction. Before carrying out the transaction, the mediator will make sure of the credentials of the various stakeholders (in this case, producers and distributors on one hand, and transport organizations on the other), as well as the quality of their products and services. After carrying out the transaction, the mediator will accept bearing the commercial and financial risks by implementing rigorous insurance and control mechanisms. From this point of view, it is clear that trust in the 4PL as point of interface is notably due to the information system quality and transparency. Investing in a good track record and reputation and specializing in certain activities and sectors, however, are also part of 4PLs’ means to reveal their trustworthiness (Visser, Konrad & Salden, 2004).

This is the reason why interdependence does not imply the absence of any arm’s-length competition. Indeed, if the technological advances developed by the 4PL are invaluable to network organizations in many supply chains, it seems that the dependence of suppliers, producers, distributors, and designers on 4PLs, the true experts in the management of interfaces, is becoming stronger. This leads to an essential question: Will the 4PL be able to play the role of hub firm in the long term without misusing its status, a phenomenon that already has taken place, for example, with the global distribution system of the airline industry (Saglietto, 2002)? Keeping in mind that pure 4PLs are totally dematerialized, this could one day become a handicap when 4PLs interact or compete with members of the network organization, some of whom, having invested in important assets, might be able to take control of the hub function. That is probably why some conventional LSPs partially turn into 4PLs, maintaining powerful logistical infrastructures (warehouses, handling equipments, etc.). This allows them to stabilize the supply chains over time, while the 4PL, as a dematerialized firm, can remodel its service offer in a short time, but then is totally dependent on the external environment and on its rapid changes.

Thus, a key informant from the marketing department of one of the two LSPs that preferred to remain anonymous told us that his firm decided not to become a 4PL for the agri-food supply chains in 2005; the top management had been very hesitant on this matter for two years. Indeed, the tracking and tracing constraints have become so restrictive, as a means of avoiding health crisis development, that governing too large a number of supply chain players is now extremely risky. The LSP would rather retain the control of logistical assets complying with ISO standards (more than 20 warehouses), and it presents this option to its main clients as an absolute guarantee of reliability. It obviously would be necessary to persevere in this path to know which contextual factors would help to better understand why some conventional LSPs have adopted a 4PL approach while others have not.

To sum up, we think that the acquisition of 4PL legitimacy as a broker (network architect) is linked to a close correlation between two phenomena: (a) the numerous logistical outsourcing operations involving 4PL prevent manufacturers and large retailers from backtracking, and (b) the 4PLs’ development of value-added services have led them to become more and more often “entrenched” in network organizations. This legitimacy is based on four key factors: intermediation, switching and coordination between the different players, market regulation and “fluidification,” and value-added creation. Without a doubt, the 4PLs’ know-how has created irreversible changes in processes of governance of network organizations. This phenomenon is expected to spread worldwide as European borders progressively open up to foreign LSPs.
Conclusion

According to a strategic approach of network organizations (Miles & Snow, 1986), the broker or hub firm is in charge of coordinating the activities of firms, which are legally and financially independent but are in the same supply chain. In order to carry through its project, this broker positions itself as the network architect, using partner firms’ competences and resources. In this sense, network organizations are in line with the present idea of SCM, that is, with an across-the-board approach to intra-organizational processes in the firm and in the global supply chain. Thus arises the question of the broker’s real identity: It arouses interest among practitioners as much as among academicians. We have suggested in this article that 4PLs could play the part of broker thanks to the competences they have stored up in managing the intermediation function. It would be rash, however, to think that the other supply chain members will not react to the actions taken by 4PLs.

Indeed, controlling the intermediation function enables running a supply chain so that it functions in one’s best interest and allows capture of a large part of the value created during the B2B exchange. This reality sometimes is forgotten by those who have only an “instrumental” approach to logistical strategies, but it is obvious for those who consider that any supply chain is first a political system structured by power regimes (Cox, 2004). We can thus anticipate that manufacturers and large retailers, for example, will carry out strategies to win back the intermediation function in the next few years by developing their own tools. An example is Wal-Mart, which has understood the advantage of having its own electronic marketplace. Whether or not 4PLs will be able to keep their role of brokers undoubtedly will depend on the harshness of the supply chain members’ reaction.

References


About the Authors

François Fulconis is Assistant Professor of Strategic and Logistics Management at the Université d’Avignon et des Pays de Vaucluse, France. He is a member of the PRATIC and CRETILOG research centers whose research interests include strategic partnerships, network organizations, supply chain management, and global competitiveness. He has published his research in several conference proceedings, book chapters, and academic journals, including Competitiveness Review, Gestion 2000, Logistique & Management, Management Decision, and Revue Française de Gestion.

Laurence Saglietto is Assistant Professor of Strategic Management at the Université de Nice Sophia-Antipolis, France. She is a member of the GREDEG research center (UMR CNRS 2767) whose research focuses on network organizations, strategic management of alliances, and the management of global distribution systems in the airline sector. Her work has appeared in several academic journals, including Annales des Mines-Gérer et Comprendre, Gestion 2000, L’Expansion Management Review, Management Decision, Networks and Communication Studies, and Revue d’Economie Industrielle.

Gilles Paché is Professor of Strategic Marketing and Logistics at the Université Montpellier I, France. He has more than 180 publications in the forms of journal papers, books, edited books, edited proceedings, edited special issues, book chapters, conference papers, and reports. He is a member of the ERFI and CRETILOG research centers, and his major interests are network organizations, supply chain management, e-business, and retail operations management. He serves on the Advisory Board of Décisions Marketing, Logistique & Management, Management & Avenir, Networks and Communication Studies, and Supply Chain Forum: An International Journal.