From the logistics function to the logistics service: A literature review

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Our article aims to bring a comprehensive literature review of this deep mutation, through a synthesis contribution that retraces the evolution of the logistics function towards the emergence of the logistics service phenomenon.

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From the Logistics Function to the Logistics Service: A Literature Review

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The logistics service providers, along the multi-actor Supply Chains, are considered as real pilots of the interfaces and represent a radical innovation on the managerial, strategical and operational plan.

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I. INTRODUCTION

Logistics have known, for decades now, a strong development and a radical mutation of its status and identity. It is, nowadays, perceived as a major element to affirm a competitive sustainable advantage, and thus becomes an approach that is strongly strategic for companies [1], which requires more and more resources. We notice an increasing importance given to the transport reliability, to the speed, to the qualitative factors and to the ability to provide adjusted services.

In order to avoid the scattering of their assets and to ensure the best incomes of their investments, a large number of companies have questioned their methods of conceiving and managing their Supply Chains, opting the outsourcing of their Supply Chain, or of a part of it.

The refocusing of industrials on their core business has promoted the outsourcing of the logistic function in an apparent contribution to create a logistics services market.

In this article, we suggest to enlighten and analyze this mutation in a chronological way. Our reflexion is based on a literature review, which presents, in a first stage, the concept of logistics and Supply Chains: their definitions, conceptions and management. We will also review the best practices in the logistic field, with an overview of the trends in which these practices are a forming part.

We will, afterwards, present the concept of outsourcing and the evolution of the logistic service provider business.

II. LOGISTICS: ORIGINS AND EVOLUTION

In order to ensure a better understanding of the essence of logistics in the management of a company, it is necessary to review its definition, as well as to identify a brief history that allows framing its evolution and its current state.

Through our literary research, we could notice that there is no thorough agreement between actors, regarding the concept of logistics. This is due to the increasing number of data related to logistics, which have an important impact on the logistics' evolution, such as the market, the life cycle of products and services, the customers’ requirements and the application field, to which the logistics function is applied.

We will retain the definition produced by the Council of Science and Technology (CST) [2], which seems to us as the most appropriate one to the current situation of the market.

"Logistics is the whole operations of management and of the organization of the physical flows and of the information inside the company, as well as between the company and its partners. It aims to coordinate the sourcing of production and distribution activities. The transport is an essential component of it. Still, it also includes the demand planification, orders' processing, procurement, planification, production, relations with customers and suppliers, storage, handling, assembling, packaging, products’ packaging and support functions related to these activities.

a) The major phases of logistics' evolution

The concept of logistics dates back to ancient times, where the Greek have developed methods of logistics’ procurement and coordination, in order to support their military activities. Moreover, several great empires appointed officials in charge of logistics. Logistics have been developed thanks to these military origins [3]. In fact, before the 50s, logistics were still referring to military concepts [4].

In the 70s, logistics were more perceived as an internal activity of the company, whose major role was to reach the optimization of resources they locally consume (function by function), and not in a global way. The emergence of concepts such as the « just-in-time » leads us to think in terms of flows, which leads, in the 80s, to a redefinition of logistics. This concept has
become a transversal function which, on a horizontal plane, allows the coordination of the other functions, and, on the vertical plane, supports a constant dialogue between the operational and strategic levels of the company [5].

Since the early 90s, the pursuit of efforts that led to reduce costs and to enhance the service quality leads to think about the Supply Chain as a whole and not only inside the company. In consequence, we could say that, in this period, the logistic function manages both intern and extern relations between functions and the implied companies in the logistic process, in order to maintain, not only the continuity of the physical flows, but also the flexibility and the reactivity of the process. The following table recapitulates these five phases:

Inspired from the international congress of research on logistics, 2006 After having presented logistics and its evolution, we will analyze the changes that have announced the implementation of the SCM. To engage our study, it is necessary to show the impact resulted from the re-composition of logistics, which has emerged, later on, towards the SCM.

b) The emergence of the SCM paradigm

The driven efforts seeking an integrated management of the Supply Chains have given birth to an approach of SCM type, that has, by nature, an integrative and systemic vision, rather than a functional and compartmentalized one.

All the definition attempts agree on the fact that this approach is a process that integrates the entire function of the Supply Chain, with a global vision.

i. Conceptual confusion between logistics and SCM

There are many definitions that vary according to authors: several publications do not lead to a common body of literature. This difficulty makes it hard to agree on a conceptual definition of the supply chain management and might be the source of confusion between logistics and SCM.

This second approach refers to an expansion of the vision in terms of the SCM perception. Through this expansion, Colin and Pache[6], make it evident that logistics, transcending borders, « accentuates the existence of functional relations within and between companies, while the SCM visualizes the necessity to integrate the totality of transversal operations into the flows of associated products and information, through the identification of the major actors, among which it is essential to establish lasting relations, and which process are able to allow its achievement ».

On the basis of this distinction, the authors [7], show the existing differences between the SCM and the suggested definition provided by the Council of Logistics Management in 1998: “logistics is a part of Supply Chain activities. It is related to the planification, execution and control of the efficient and effective flow of the product’s storage, and of the information service related to these functions, starting from the origin point to the consumption point, in order to respond to the customers’ requirements ». This definition shows logistics as a function that participates to the SCM.

On this basis, the three authors gather in an SCM logic that goes beyond logistics, by focusing on a SCM approach related to the process. Their approach refers to cooperation between the SCM actors that leads to the management of activities and process: « Logistics, market research, sales promotion, information gathering, research and development, the conception of products and the analysis of the systems’ role in the value creation ». To summarize, the supply chain management is a much larger concept than logistics.

This distinction between SCM and logistics allows us to identify, more precisely, the Supply Chain Management.

III. Logistic Environment: Trends and Best Practices

The environment framing the Supply chain management includes trends and best practices. Trends impact the best practices and vice-versa.

The logistic practices presented below are made in the context of the logistic trends that have been shaping this sector for decades; they are concrete answers to the environment pressures on companies.

a) Trends

Bigras [8] has developed certain trends that seem particularly significant to him.

That to say:

* The increasing customers’ requirements
* The increasing competitiveness axed on productivity and quality
* The acceleration of technological development and diffusion.
* The complexity and globalization of markets

As far as their increasing needs are concerned, consumers are better informed and dispose of many resources to compare the quality of available products. The ability to satisfy the consumer becomes then the main challenge of competitiveness. At this level, consumers should be integrated into the supply chain, which goes from materials to them. To face this environment, companies should develop their ability to satisfy and anticipate the evolution of consumers’ requirements. To highly achieve this, the producer should establish a partnership with his customers at the level of the R&D, of marketing and manufacturing.

As for the increasing competitiveness based on quality and productivity, it is perfectly obvious that companies, regarding their environment requirements, and in order to effectively satisfy their customers’ needs, should master their total quality management, while
providing the guarantee and the assurance of a continuous improvement to their customers.

Regarding the fourth trend, the world is becoming, more and more, an interconnected economic system, in which companies get sourced, produce, commercialize and sell in many countries. Therefore, logistics and transport are the key elements to competitiveness in international markets.

These changes in the environment have pushed companies to undertake some readjustments, which, in turn, induce some changes in the supply chain organization. These intern changes are related to the will of minimizing costs, improving quality, providing more satisfaction to customers and ensuring a better use of the company’s assets.

b) Best logistic practices

These practices contribute to the efficiency of any company. It is, somehow, what Cuthbertson and Piotrowiez [9] call the best practices, which were classified, by Bigras [10], into three main categories, according to the main lever put in action for each of the practices.

i. The collaborative integration

The collaborative integration between partners is one of the elements and practices that are essential to a healthy supply chain management. Concretely, it is referred to collaboration between actors of a Supply Chain, to ensure that everyone could reap benefits from it.

According to Ballou and al [11], there are three coordination levels inside the Supply chain: the intra-functional coordination between the process and the activities inside the company’s logistic function, the inter-functional coordination between the various functions of the company and the inter-organizational coordination of the supply chain activities between companies.

ii. Process reengineering

Several optimization approaches of the company’s functioning have been developed based on a process description. It is the Business Process reengineering (BPR). The principle of this approach consists in challenging the existing functioning and cutting the rope with it, in order to reach improvement levers. Thus, a process « re-conception » should take place, as well as an examination of the existing process and a re-evaluation of it, with a new vision.

iii. Customers’ relationship management

At this level, many techniques are used to monitor the demand development and to reduce the uncertainty related to the latter. It is also a matter of the demand pooling techniques, the inventory sharing, the data capture at point of sale, as well as the demand chain management, which is analogical to the supply chain management. The most important of these methods gather in the best practice (CRM), we have previously defined. This practice aims to win the loyalty of the company’s customers, by supporting their marketing efforts through a system that allows the maintain, the updating and the interpretation of the whole data related to both existing and potential customers.

These trends and best logistic practices require a serious growth of the logistic service industry, which is explained by a will to outsource logistic activities by manufacturers and distributors.

IV. Outsourcing: A Strategic and Logistic Perspective

The transit from the mass economy to the one related to the singularity economics was at the origins of a phenomenon that has strongly marked the evolution of many of the company’s functions, especially the ones related to logistics and transport. We are witnessing the transformation of the logistics function in manufacturing, of the logistics service and of transport. A first stage was characterized by a massive use of third parties, allowing the variation of fixed costs. Then, the affirmation, to customers, of the service as a key factor to competitiveness has amplified the phenomenon of using professional logistics providers.

Thus, the development of logistic outsourcing appears fundamental to the rise of PSL. We will then explore how this has allowed the emergence of the PSL profession.

a) The logistic outsourcing movement

The generally given definition of logistics outsourcing is quite similar to the one generally attributed to outsourcing. Ivanoj and Massou Franzil [12] define the logistics outsourcing as “the fact to entrust the whole supply chain, previously internally ensured, or only a part of it, with an eventual transfer of resources, over a long term period, to an external provider, with a performance aim”. This definition, including a strategic dimension, is thus distinguished from notions, which are often related and confused, of subcontracting, impartation..etc

b) The logistics outsourcing forms

The partnership with a logistic service provider gets normally built by the use of contracts. Outsourcing could be done more simply, by the conclusion of a logistic outsourcing contract. Companies could also set firms of different structures, to whom outsourced activities will be entrusted.

i. The contractual outsourcing

Lamy[13] had defined this concept as « an outsourcing of tasks or of the logistic function to a provider, by the stipulation of a contract ». This outsourcing is achieved through the signing of contracts by ordering customers and providers, who are
supposed to ensure the marketing and/or the execution. In this case, logistics function transfer is a part of a customer-provider service relationship. The main advantages of this modality are essentially simplicity and flexibility.

ii. **Structural outsourcing**

The company has the possibility to pursue an outsourcing strategy through structural means, which implies a longer-term decision. This solution has the advantage of being stable; however, it is less flexible, unlike the previous one.

Two outsourcing modalities are possible. Those where the structures do not involve the creation of a new legal entity (branch), and the one where structures, conversely, chose the creation of a subsidiary or of a joint venture [14]

V. **LOGISTIC SERVICE DEVELOPMENT & EXPANSION**

The outsourcing movement has given birth to the recent profession of logistics service provider, which is enriched with new activities, particularly in terms of products’ packaging and of the supply chain steering.

a) **Definition of logistics provider**

There is no consensus in the literature about the definition of a logistic service provider. Authors [15] show the difficulty to agree on the contrasted definition of the logistics service and its actors.

In literature, most of the contributions are focused on the outsourcing concept, without bothering to explicitly return to the meaning of “logistics” in this context.

Coyle and Al [16] define a logistics service provider as “an external provider who assumes the whole company’s logistics function, or a part of it.”

Sink and Langly [17] join the same definition, adding that the provider should be able to assume a combination of at least two activities, in a coordinated or integrated way.

This been said, the definition, in the matter of logistics service, definitions that focus on different aspects of the outsourcing operations (service, nature and duration of the service), overlap and reflect a chronological evolution of the logistics services, from the transport execution to more sophisticated services, included in a longer-term vision.

The diagram below provides an overview of the logistics outsourcing evolution.

![Diagram of logistics outsourcing evolution]

*Source: MURRAY A. (2003)*

b) **PSL typology**

The diversity of roles that could be attached to PSL leads to suggest typologies. Many criteria are taken into account to build these typologies: the nature of services [18], the actions’ complexity and specificities [19], the capacity of PSL to ensure various service types [20], the strategic orientation of the customer and the service providers’ perceptions [21]. The totality of these criteria presents various types of PSL.

Jacques Pons [22] suggests a classification of 5 types of logistics service providers, from the least to the most complete:

The 1 PL (First Party logistics providers) corresponds to companies that ensure their own
logistics organization, having their own fleet of vehicles and warehouse. This is, nowadays, still justified if the company has specific needs in materials and warehouses, or if the drivers perform other tasks than the vehicle driving (assembling, installation, adjustment of the sold product).

The 2PL (Second Party logistics providers) are the classic logistics service providers that ensures the execution of physical logistics operations (transport and storage). Their management system is limited to a monitoring for the account of the client company. They are the first type of service providers that have emerged in the 80s and that mainly focus on the development of the transport activity.

The 3PL (Third Party logistics providers) are in charge a part of a company’s Supply Chain; they do not only ensure the function execution, but they are also in charge of planning and creating a relation with other parts of the chain. The 3PL have slowly developed concentric circles of services with a high added value, which leads them to achieve tasks more and more varied, such as the cross docking, the co-manufacturing, the delayed differentiation of products, the co-packing, the tracing and tracking…

The 4PL (Fourth Party logistics providers) appear at the late 90s and are characterized by the fact that they do not own any physical resource. They could be a sort of a 3PL which are no longer sub-contractors, but that plan and coordinate the physical flows, executed by physical operators (2PL) or by the supply chain providers (3PL) that innovate and reduce global costs by the use of their own resources, as well as competing with other competitive service providers.

The 5PL have recently appeared on the market. They had to retain the experts competence in the integration of SI logistics to totally steer the information sharing between clients, suppliers and 3PL. the 5PL conceive, organize and realize, on behalf of a, ordering customer, logistics solutions in the field of information system and of application software solutions.

« The LLP are logistics service providers that suggest, relying on their own assets, a complete and integrated solution, by performing, for the account of their customers, steering activities, at the level, for example, of the optimized management of stocks or purchases. This implies the achieving of the demand provision and of optimization, as well as a wider economic function[23]

To complete this part on logistics service providers, we will discuss the diversity of roles that service providers could play.

c) The role of logistics service providers in the logistic schemes

According to Carbone [24], the importance of the phenomenon of transport outsourcing and of logistics, by manufacturers and retailers, led to many efforts to position the PSL as a key factor of the logistics evolution. Bolumole[25], considers that the PSL role in the Supply Chain is conditioned by four actors: the strategic orientation of the outsourcing organization, its perception of the PSL role, the nature of the customer-supplier relationship and the extent of the logistic process outsourcing.

i. The integrator PSL

In their synthetic work on the PSL role in the Supply Chain integration, Fabbe-Costes and al [26] underline that it is crucial to consider, on one hand, the nature of activities of the provided services by the PSL, and, on the other hand, the logistic integration.

A certain number of authors distinguish the PSL of type 3PL, which is in charge of executing the physical transfers (traditional PSL), from the 4PL PSL, which, according to [27], coordinates the logistics activities.

According to [28] and to [29], 4PL is an integrator of chains, whose main role is to assemble and manage the resources, the capacity and the technology of its own organization and of the complementary PSL, in order to deliver an integrated solution to customers.

For Filsers and Paché [30], the profession of 4PL includes other skills: relational ones, skills in SIIO (Inter organizational information system) and in technologies support, regarding the management flows. This PSL type has also architectural skills to advice, organize the flows management and conceive integrated solutions.

ii. The PSL firm Pivot

Literature underlines that logistics service providers could play a pivot role in the logistic space. Dumoulin and Al [31] consider that PSL could also play a pivot role of logistics alliance Networks. Within this framework, the pivot is, therefore, essential, because of its information flows mastery. Thus, PSL is a double intermediation actor between horizontal partners, and between the horizontal partners and a traditional PSL complex. Britan and Al [32] suggest maestro and mini maestro notions. Carbone [33] adds that the control of the client company’s information flows, and of logistics process, strengthens the role of the conceptor and the PSL chain manager.

iii. The facilitator PSL

The PSL facilitates the creation of the cooperative network, by accompanying the implementation of the network strategy, the development and the smooth functioning of trades. According to [34], the facilitator role includes many characteristics that ensure the cooperative network sustainability.

In its facilitator role, PSL has to mobilize the logistics skills, as well as the interpersonal skills, especially when it comes to the interfaces management.

iv. The coordinator PSL

At this level, PSL, mostly a 4PL type, ensures the operational management of the network and takes
into account the totality of the strategic objectives of its customers.

It is also in charge of the flows management coordination, of the execution of logistics activities (transport, storage, sourcing), of the synergy of information systems and of the competing industrial technologies. PSL is responsible of the organizing and optimizing resources. It is, therefore, the key actor of logistics pooling between manufacturers.

v. The architect PSL

As an architect, PSL, mostly of type 4PL, ensures the negotiation of strategies and objectives of the network members, and formalizes the logistic schemes. Within this framework, PSL should organize meetings and suggest common logistic schemes to the network members, whist the emphasize on the advantages of the pooling approach; to achieve this, the service provider relies on the accumulated expertise from cooperation experiences, to whom he is coordinator and facilitator, as well as on its expertise as an intermediary actor between manufacturers and the large-scale distribution.

Fronting the increasing logistics performance demand, the PSL got slowly adapted and have enlarged their offers.

VI. Conclusions and Research Paths

This article has suggested a synthesis about the logistics evolution towards the logistics service, as well as an exploration inside the new profession of the logistics service.

As a conclusion of this synthesis, we could retain the role of logistics and its evolution through the transit of the mass economy model to the one of the economics of singularity. We could also apprehend how logistics have become a strategical measure, through its successive management methods: mastery of the physical flows and SCM, a lever to get a competitive advantage.

We demonstrated that the PSL emergence is related to the logistics outsourcing movement. This weighty trend is a strategic challenge to the powerful raise of real multi-services and multi-functions professionals.

This literature review confirms the relevance of the research related to the logistics provider profession: this inducts many questions that we consider crucial: which skills should the PSL develop, in the matter of flows steering, to become the principal actor of supply chains? How to build an offer system adapted to the customers’ requirements, while generating economies of scale and how to create added value? How to master the technologies progress, to ensure a better management of multi-actors supply chains, in terms of flows and platforms steering?

In short, what is the contribution or the real role of PSL on the level of multi-actors supplies chains? Many questionings that represent a research agenda of a primary importance.

References Références Referencias

conceptuelle et propositions testables dérivées de la théorie des coûts de transaction. Université Nancy 2, Cahier de Recherche n°2006-03.


