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RESEARCH ARTICLE

"POOLING OF ROAD TRANSPORT OF GOODS AND VALUE CREATION: WHAT ARE THE IMPACTS ON THE ECONOMIC PERFORMANCE OF THE COMPANY? CASE OF MOROCCAN COMPANIES"

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ABSTRACT

After the advent of the Supply Chain Management concept and the transversality of the approach, the research has often shown the superposition of the Supply Chain with the value chain of the company. In fact, the global Supply Chain contributes, through its different functions, to create the company's value in its operating cycle.Logistics pooling, meanwhile, represents an emerging cooperative logistics strategy to streamline access to resources and maximize their profitability. This streamlining and maximizing can guarantee a real good economic performance for the company in particular and for the co-operators in general.In order to solve our main problem: How the choice of a pooling strategy could impact the economic performance of the company? We present in the current article the different arguments that legitimize the fact that, today, logistics pooling strategies impact the global value chain, using a survey of companies that have implemented such a strategy. This empirical research is a way to analyze the nature of Pooling-Value relationship and it provides the ability to identify the impact on the economic performance of collaborating companies.

INTRODUCTION

Since its implementation in the professional environment, business management or management field, logistics has totally changed by its operating mode, its tools, its amplitude, its weight, etc. Indeed, since companies have applied it at the very beginning, logistics was perceived as a function of transport execution. Ever since managerial practices, followed by the development of ICT, evolved, this function, as well as many others, became more complex and more transversal. By the way, this change in not a lucky coincidence, it is the result of many years of focusing on costs optimization, service level improvement and value creation. If the costs reduction can be justified by a simple basic estimation, the service level improvement by satisfaction surveys, the value creation, as for it, can be particularly complex to assess or to handle. Actually, in spite of the fact that satisfaction studies have been made to decrease the problems of qualitative factors perception that influence collaborators satisfaction, this remains insufficient to evaluate the impact of a logistic performance on the value creation for a Supply Chain. As a matter of fact, the customer is not the only link affected by the value, but also all the stakeholders are concerned.

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The strategic decision of the company seems to be decisive in the value creation process, but it is still far from being the only element; we should take into account the inter-organizational collaboration between supplier-industrial, producer-consumer, producer-shipper, shipper-distributor, etc. This requires the establishment of a management mode based on a strategic approach resolutely related to the company's environment (Paché, 2005). So, we can say that the logic of internal factors and uni-actor optimization grants its place to a multi-actors vision that allows synergy analysis between chain links costs in addition to their coordination. Once we define the interest of considering the synergy between the different actors, as a creator element of the value, we must point out that this synergy can be studied only through a multi-criteria analysis, whose costs structure represents "Achilles heel". However, the analysis of a Supply Chain costs structure is not that easy, as long as we intend to assess the interaction and the synchronization of functions and resources. By recurrence, to study the synergy of the different actors, it is necessary to start by a mono-segment analysis, and then study the correlation between all of the Supply Chain links that aim to converge the efforts toward an optimization of the chain's global costs and therefore reach this synergy between the different individual costs. The purpose of this article is to demonstrate the way a collaborative approach (the pooling of road transport of goods), within a Supply Chain in Morocco, contributes to the optimization of logistics costs between producers and shippers by schematizing the impact of such an approach on costs

structure and consequently its impact on the economic performance of the collaborators, furthermore, it is a move that will impact "partially" the value creation process of the Supply Chain. To demonstrate this correlation between "Pooling-Value", the article is presented according to writing methods ILMRD suggested by THIETART R.A. (2007). A study has been made to answer the major question: "How the choice of a pooling strategy could impact the economic performance of the company?" and also to validate the recommended research hypothesis (H0): "The adopted level of pooling is going to impact inversely the magnitude of the company's costs by creating more value", and whose detail will be presented in the methodological section.

LITERATURE REVIEW

Before moving to the main analysis of literature related to our main problem, we have to mention the structure that should be adopted in this analysis. In the first place, presenting the basic concepts of the value seems to be essential in view of the various contributions of researchers, and this will allow us to frame the perimeter of our work in relation to the analysis of this value. In the second place, we will be focusing on the presentation of transport pooling as a participative approach between the Supply Chain partners. Added value concept is a crucial notion in the industrial field. Indeed, this concept represents the basis of every economic goal for the company. The fact of being able to create added value allows the remuneration of several partners and third parties of the company. On the other hand, with the emergence of the Supply Chain management transversality, the value chain concept became much more important in literature (PALPACUER and al., 2010).

Presented by Michael E. Porter in his book "Competitive Advantage", the value chain representation illustrates the distinction between basic activities and support functions of the value creation (Figure1).

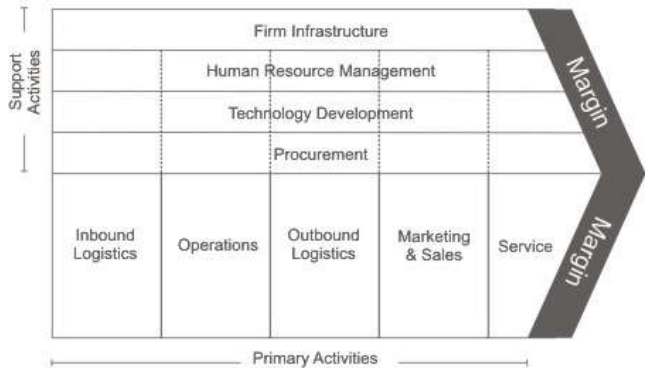

Figure 1. Porter's Value Chain

According to Porter, the primary activities are the key elements through which the company can create value and competitive advantage (STRATEGOR, 2004). We can distinguish, among these activities, four functions:

- Logistics: Includes all the activities required to receive, store and distribute raw materials, goods in process and finished products. These activities assemble elementary activities as, for example, transport of goods or inventory management.
- Operations: Involve all the activities required to transform inputs into outputs and include elementary activities such as cutting or assembly.
- Marketing and sales: Involve the means by which products and services are designed and made available to the customers. This may include advertising, customer base management or partnerships creation.
- Services: Include the activities required to maintain and enhance the product's value perceived by the final consumers. These services can be issued at the moment of the product sale or after a definite period of time to maintain the product's value.

These activities must be promoted by support activities (or auxiliary) that do not allow the contribution to this perceived value creation process but, by reason of an intermediate effect, subscribe to the Supply Chain approach. In the accounting logic, added value is defined as the sum of the gross operating margin as well as the difference between production and intermediate consumption. On the basis of this definition, we can say that the added value does not correspond only to the industrial logic but any commercial company can provide an added value.If we spare the production of the value chain main functions, we appreciate the essential role of logistics also in business companies. If we assume that the systematization of logistics and the transversality of the Supply Chain approach imply that this function's costs include all the costs related to supply, production, distribution, recycling, generated costs due to a non-optimization of the chain, etc., then each chain link generates a part of the overall cost price and therefore creates added value.

So, in general, Supply Chain performances influence directly the financial performances of every company. By optimizing all the flows concerning the operating activity, the company will obtain benefits associated with more reduced delays and it will be capable of decreasing the required thresholds in the inventory. Thus, this provides an undeniable competitive advantage for the company. (Léglise, 2008). To reach the continuous improvement, companies should lower their respective logistics costs as long as this decline will increase the added value. Henceforth and in an analytical way, we can deduce that costs control, in a Supply Chain, is going to generate a decrease of the cost price and, as a result, the increase of the created added value besides the company's profits.

The authors of STRATEGOR claim that competitive advantage can be earned only if the company has an advantage over its competitors in terms of costs or demand differentiation (STRATEGOR, 2004). However, the control and the optimization of the global Supply Chain is a vital condition in both cases since logistics performance combines the criteria cost-quality-delay. As for pooling, it is a common practice of resources sharing. The literature focusing on transport pooling is very often confused with logistics collaboration concept (Simonot and Roure, 2007 ;Sboui, 2008). Transport pooling, a type of inter-company collaboration characterized by the combination of resources that belong to two or more stakeholders (competitors or not) with the intention of a better rationalization of transport flows (GONZALEZ-FELIU and MORANA, 2012).

Figure 2. Sample of the mini-survey

Procter & gamble	Samsung	Sony	Gold vision (abroun)	
Centrale danone	Colainord	Colgate-palmolive maroc		Lg
L'oreal maroc	Microchoix maroc	Koutoubia	Dalaa maroc	Unilever maroc

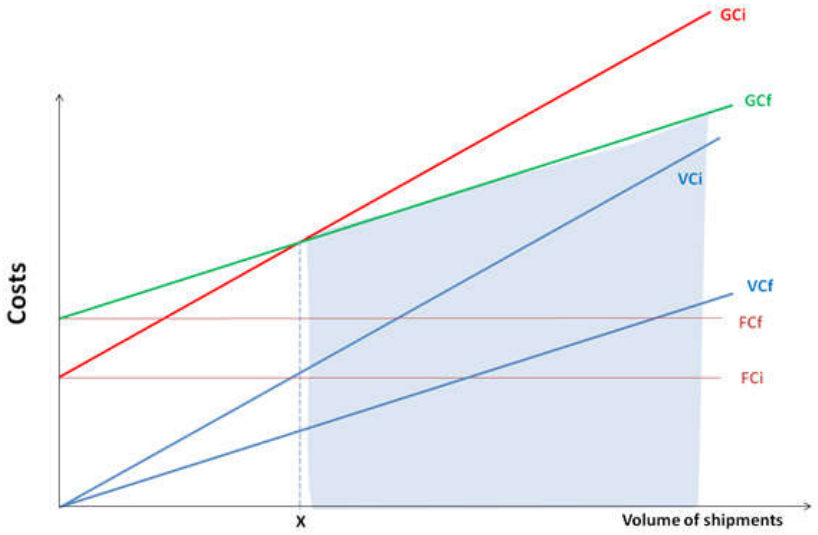

Figure 3. Case of an annual fixed contract

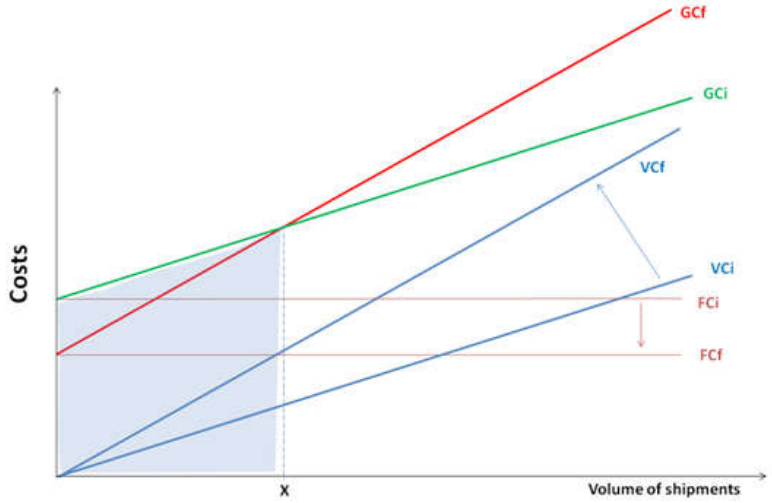

Figure 4. Case of a contract according to the transported quantity

METHODOLOGY

In order to illustrate the relation between these two essential concepts, namely the practice of pooling and the way that it affects the added value creation process, a mini-survey was conducted among 13 Moroccan companies who, a priori, practice transport of goods pooling. Thus, it is a question of a quantitative method and a positivist epistemological movement. This mini-survey will allow us, thanks to an inductive reasoning, to generalize our results. The questionnaire contains four parts: the first part relating to the identification of the company, the second part is about the company's costs structure, the third one is related to the service delivery (pooling) and the last one relating to the global performance of the company.

RESULTS

Among the companies surveyed, 77% of them practice logistics pooling of goods transport. Among them, 92% ensure that pooling impacts their costs structure. This leads us to the first two findings: the first one is that pooling, in Morocco, is partially implemented all over the country. On the other hand, a first pre-validation of the first hypothesis: Existence of an indirect (or direct) impact between pooling and cost structure.

By analyzing the results of the questionnaires, 85% of companies define added value as "the company's ability to generate cash". This may seem confusing in terminology and therefore in the study of pooling and economic performance, while the added value can also be explained in a subjective way: the value perceived by the customers.

One last number to take into account; only 92% of companies who practice pooling confirm that this strategygrants the ability to transform fixed costs into variable costs. The overall fixed costs that are going to be borne by the shipper will be divided over a large number of units, given "resources sharing". An immediate outcome pursuant to economies of scale principle: decline of fixed costs per unit for the shipper.

DISCUSSION

To analyze the mini-survey's results, we distinguish between two types of contracts during the pooling process. The contract may rarely be an annual fixed contract, and in this case, the company earns in terms of variable costs (fuels, etc.) which are turned into contractual fixed costs. By means of this first analysis figure, we witness an increase in fixed costs at the expense of variable costs reduction for the company. The initial level of fixed costs (before pooling process) (FCi) has therefore increased to reach the global level of fixed costs (FCg). By analogy, the initial variable cost (VCi) abates (leading coefficient) to a final variable cost (VCf). According to the graph, we notice that this practice becomes economically justifiable for the company. Nevertheless, this practice is barely applied for the other different reasons, other than economic. Transport pooling is often implemented when the fill rate is low, in order to improve efficiency indicators. In this case, we talk about a variable contract according to the quantities.

In this case, we notice a decrease of fixed costs versus an increase in variable cost per unit. The graph makes us realize that, if the transported quantity is inferior to an optimal quantity X, the company will be economically efficient. Beyond this amount, the company reaches a pleasant fill rate and has no longer an interest in pooling. Thus, this analysis describes the way that pooling impacts the company's costs structure. To sum up, we can say that pooling provides a snowball effect of costs decrease, through the following functions:

- Fixed costs are transformed into variable costs (or inversely).
- Resources sharing principle allows fixed costs reduction by the same principle of economies of scale (for the shipper).
- Pooling also enables the ability to avoid major investments which lead to diseconomies of scale.

Added value related to cost price: We can assert that pooling is negatively correlated with the created added value.

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