Logistics outsourcing determinants and performance management: A theoretical model.

Déterminants de l’externalisation de la logistique et pilotage de la performance: Un modèle théorique.

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Abstract:
While the principal objective of outsourcing was to reduce costs, organizations are now using this process to focus, their financial and managerial resources, on value-creating activities and improving the logistics performance for the company adopting it.
Based on this observation, the objective of this paper is to wonder about the decision of logistics outsourcing: what factors explain why a company will choose to outsource its logistics activity rather than maintaining it internally knowing that other companies show a cautious position compared to the idea of outsourcing? And what contributions does each company hope to receive in return for the decision to outsource its logistics?

Keywords: Logistics outsourcing; Explanatory factors; Risks; Logistics performance; Theoretical model.

1. INTRODUCTION:
In the context of very fierce competition, the overall performance of the company is achieved not only by controlling the internal environment but also by the external environment. These market fluctuations contribute to a profound change in the companies’ organizational structure, which has moved from a vertical integration mode and diversification of activities to a refocusing on its core businesses and outsourcing (Zouggar Salah, 2009).

Indeed, outsourcing has become a principal component of this reorganization phenomenon, along with the firms’ refocusing on its core business. The outsourcing is to assign an activity to a service provider and to transfer the whole or part of the personnel performing this activity concerned as well as the associated production equipment (Barthélemy, 2004).

Nowadays, virtually no activities are outside the use of outsourcing (Wickam 1996), whether qualified "support" or belongs directly to the value. "The Outsourcing Barometer" (Ernst & Young 2008) categorizes the company's activities into seven functions classified below according to the degree of use of outsourcing: General Services 76%; Distribution, logistics or transport 73%; IT or telecommunications 68%; Human Resources 59%; Administration or Finance 56%; Product Development-Manufacturing 46%; Marketing-Communication 29%.

Thus, if traditionally the outsourcing had for the principal goal the reduction of the costs, today, the companies use this process to gain a competitive advantage. Outsourcing allows companies, to focus their financial and managerial resources on creating value activities and transferring activities, not close to the core business, to specialized service providers, to reduce its balance sheets and increase its profitability (Barthélemy, 2004).

It is from the 1990s that the logistics outsourcing function began to emerge. Lieb & al. (1993) consider that logistics outsourcing is the use of external service providers to take care of logistics activities, which have traditionally made in-house. These logistical activities can include the entire logistics process or part of them. Also, Fulconis & al., (2011) argue that logistics outsourcing is a maneuver widely diffused, which corresponds
to a logic of restructuring of value chains leading to the formalization of long-term contractual relationships with partners’ skills (and resources) complementary to those of the outsourcing company. For these authors, outsourcing leads to reconfiguration, in depth, of value chains and requires the commitment of the company and its service provider in a sustainable relationship.

In addition, several authors had examined the logistics outsourcing concept (Lieb & Randall, 1996, Langley, Dobrey, & Newton, 1997, Murphy & Poist, 1998, Skojet-Larsen, 2000), according to them, the logistics outsourcing can be defined as the fact of entrusting all or part of a supply chain, previously provided internally, with the eventual transfer of resources, over a long period of time, to an external service provider, with a view to performance (Franzil, 2009). From this definition, the outsourcing is not a simple operation; on the contrary, it is a strategic decision to embody the new company’s orientation towards the search for performance through the optimization of the different links of the logistics chain.

According to this finding, this paper is interesting in four points: first point, the most evoked theoretical approaches to explain the outsourcing decision, in a general manner, and especially the logistics outsourcing, second point, the risks of outsourcing operation repaired in the literature, third point is reserving for the contributions of logistics outsourcing to improve performance. The last will concern the presentation of hypotheses and model research. Through such an approach, a vision will be formalized (in the form of a research model) of the main exploratory factors and risks, retained in the literature, of the logistics outsourcing and the way to improve logistics performance of the company adopting it.

2. LOGISTICS OUTSOURCING’S EXPLANATORY FACTORS: LITERATURE REVIEW

According to the literature review of logistics outsourcing decision, two approaches are the most used, by researchers in management sciences, to explain logistics outsourcing decision:

The Transaction Cost Theory Coase (1937), developed by Williamson (1975, 1985, 1996), it is the most accomplished theoretical approach on the issue of the choice, for a company, between internalization or outsourcing, based on the trade-off between the differences in production costs and costs of governance, and between the hierarchy and the market. The level of these costs had determined by the "transaction attributes". These are four attributes: the specific assets, uncertainty, frequency and ease of the facility to evaluate the provider. The Transaction Cost Theory is the central material of the theoretical framework used to explain outsourcing (Chanson, G. 2014). It had based on clear and testable hypotheses and concepts defined and clearly articulated between them.

Resource-based theory (Wernerfelt B.1984) assumes that the company’s resources are limited, and as such they must be mobilized for other fortress value-added activities (Quelin and Duhamel, 2003).


According to these approaches, the most motivating factors for a logistics outsourcing operation had evoked in these two theoretical approaches (Elbaz, J, et Batrich, H. 2017), which had mobilized to build this research model. Barthélémy (2001) argues that the explanatory factors of outsourcing characterize by its heterogeneity and mainly correspond to outsourcing.

Based on the theoretical and empirical elements of outsourcing, its determinants and its impact on the company's performance (Razzaque and Shang, 1998, Skjoett-Larsen 2000, Quelin and Duhamel, 2003, Barthélémy, 2004, Jiang and Qureshi, 2006, Sanders et al., 2007, Quelin 2007, Barthélémy and Donada 2007, Chen H et al., 2010, Boissinot 2010, Solakivi et al., 2011), it were able to establish a list of the main reasons that explain the outsourcing. Two homogeneous groups had identified as explanatory factors of the outsourcing decision: operational factors and strategic factors.

2.1. OPERATIONAL FACTORS:

Operational factors are related to the search for efficiency and the performance of the outsourced activity. Cost management, the transformation of fixed costs into variable costs, the injection of liquidity, the improvement of the performance of the outsourced service, compliance with the rules and standards of practice, and that the quest for the expertise and experience of service providers are all factors that push companies to outsource its activities. Moreover, the motivations for reducing costs, improving the quality of service and the overall performance of the company seem to be a priority in the decision of logistics outsourcing (Jurison, J., 1995).
Reduction and control cost: The use of outsourcing had firstly motivated by the search for cost’s reduction. Costs’ reduction of outsourced logistics activity results mainly from the economies of scale when the logistics service providers mutualize equipment and personnel. Also, service providers’ experiences play an important role in significant hidden costs reduction.

Transformation of fixed costs into variable costs: outsourcing leads to variances in fixed costs. Thus, outsourcing allows mobilizing financial resources; the company transmits to the service provider the two principal risks related to investments; the risk of additional costs in case of overinvestment and the risk of financial under capacity linked to underinvestment.

Injection of liquidity: logistics outsourcing involves, usually, a transfer of assets to the provider. It can result in a considerable financial contribution to the outsourcing company. In financial difficulty, for companies, outsourcing represents one of the solutions to its cash flow problem.

Improved performance of the outsourced function: Companies use outsourcing more to improve the quality of its functions’ and its performance. In this sense, the dysfunctional services are most often outsourcing. In practice, the use of a specialized service provider must improve performance and allow senior management to better position themselves and access to the expertise of the service provider.

Compliance with rules and standards of practice: using an expert cannot only achieve a high level of logistical service and a superior quality but also and above all the respect of standards and rules of practice, especially that logistics is a regulated and evolving sector. Outsourcing has to benefit the company of an update at all levels of practice and quality standards. It presents itself as an optimal solution to all the problems of the company.

2.2. STRATEGIC FACTORS:

Mainly researches reflect the strategic aspect of logistics outsourcing (Quinn and Hilmer, 1994). Conforming to these investigations the logistics outsourcing decision is making for a strategic goal. These factors are generally linking to the company’s development and demand a preliminary assessment of the strategic development axes and future company’s skills (Quélin, 2007). Based on this, the company may make an outsourcing decision for a strategic goal related to the modernization of its structures and its management optimization (Reallocation of resources). The company outsources to focus on its core business and change the scope of its activities, to lighten the structure and gain flexibility, to respond to an internal need, to deal with the environmental uncertainty and to accompany the internationalization strategies of the company.

Reallocation of resources: on principle, when the company wants to focus on their strategic activities, it leaves the service providers to care for other functions. Given the scarce and limited resources, outsourcing allows the reallocation of resources by referring them to the most contributory activities in the formation of competitive advantage. Reallocation of resources is strongly linking to the concentration on the core business. The size of the organization and the limit of its resources are the main reasons for the reallocation of resources. More the size of the company gets bigger more it loses its flexibility and suffers from an excess of charges and a bureaucratic organization.

Refocusing on the core business: core business means the activity that contributes the most to create the company’s value. This activity is usually qualified as strategic, but the main difficulty is to determine if it belongs to the core business. Indeed, logistics outsourcing allows the company to focus on its most creative value-added activity. This activity is a process that improves the performance of the company by concentrating on its productive activities and eliminates processes not creating value.

Structural relief and flexibility gains: Outsourcing is often accompanying by the company’s size reduction. This downsizing does not mean employees’ dismissal or disposal of business, but it consists of an establishment of a relationship with the provider supporting the realization of the activity as a whole. In this case, relief of the structure and the gain flexibility are essential objectives. Thus, logistics outsourcing is a part of the strategic flexibility allowing a system to accept changes.

Response to an internal need: The outsourcing is usually satisfying a need or correcting an existing situation after the failure of the internal structure. Companies, by outsourcing, are looking for improving its performance. Different situations may arise and lead to outsourcing including a restructuring of the company, dealing with a problem of sub-activity or on-activity or staff motivation.

Confront the environmental uncertainty: In a constantly changing environment, characterized by exacerbated competition, companies are, alone, unable to follow or prevent these changes.

The logistics sector is still evolving with innovation and technology. In this context, the use of logistics service providers, by companies, could be a solution to deal with the uncertainty of the business environment.

The table below (Table 1) summarizes the main explanatory factors of logistics outsourcing decision:

Table 1
The explanatory factors of logistics outsourcing decision

<table>
<thead>
<tr>
<th>Transaction Cost Theory</th>
<th>Operational factors:</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-Reduction and cost control;</td>
<td>Razzaque &amp; Shang, (1998); Chanson, G. (2003); Quelin &amp; Duhamel, (2003); Barthélémy (2004);</td>
</tr>
<tr>
<td></td>
<td>-Transformation of fixed costs into variable costs;</td>
<td>Ivanaj &amp; Masson-Franzial, (2006); Jiang and Qureshi, (2006); Power, &amp; al., (2007); Sanders &amp; al.,</td>
</tr>
<tr>
<td></td>
<td>-Improved performance of the outsourced function;</td>
<td></td>
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<tr>
<td></td>
<td>-Respect rules and standards of practice;</td>
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<tr>
<td>Resources based theory</td>
<td>Strategic factors:</td>
<td>Razzaque &amp; Shang, (1998); Quelin &amp; Duhamel, (2003); Barthélémy (2004); Quelin (2007);</td>
</tr>
<tr>
<td></td>
<td>-Reallocation of resources;</td>
<td>Barthélémy &amp; Donada, (2007); Boissinot, A. (2010).</td>
</tr>
<tr>
<td></td>
<td>-Refocusing on the core business;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Relief structure and flexibility gains;</td>
<td></td>
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<tr>
<td></td>
<td>-Response to an internal need;</td>
<td></td>
</tr>
<tr>
<td></td>
<td>-Dealing with the uncertainty of the environment</td>
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</tr>
</tbody>
</table>

Source: Authors

3. LOGISTICS OUTSOURCING’S RISKS : LITERATURE REVIEW

The logistics outsourcing had defined as an approach to realize an activity, previously performed internally, by an external provider, but the question of inherent risks arises. Based on this, before taking the outsourcing approach, the company should analyze these inherent risks. These risks must be taken into consideration by the outsourcing company; the implementation of the various control measures can mitigate or eliminate its impact. However, these risks may constitute, for some companies, obstacles or hindrances to the logistics outsourcing. Thus, most research on outsourcing addresses the advantages of this strategy. On the other hand, other researchers have identified their related risks. These risks are illustrating in the table below (table 2):

Table 2

<table>
<thead>
<tr>
<th>Risks of logistics outsourcing</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Loss of autonomy</td>
<td>Barthélémy (2007); Agnadal &amp; Nordin (2009)</td>
</tr>
<tr>
<td>Services rendered of lower quality</td>
<td>Quelin, B. (2007); Gueninnet &amp; Sauvage (2009)</td>
</tr>
<tr>
<td>Development of opportunistic behaviors</td>
<td>Paché et Médina (2007); Abbad &amp; Boissinot (2009)</td>
</tr>
</tbody>
</table>

Source: Authors

According to this literature review, outsourcing presents risks that may constitute obstacles:

- The loss of autonomy’s company: it is a principal risk of an outsourcing operation also the loss of human skills reduces the company’s ability in managing this function;
- The loss of control over the information exchanged: the company becomes dependent on the provider when it does not have enough information;
- The lack of the provider’s reactivity, which implies on his part an ability to respond in a given time to the demands of his environment by the redeployment of its resources. This lack of responsiveness translates into disempowerment of client companies and creates procedural conflicts and creates an unhealthy work environment;
- The emergence of hidden costs after outsourcing reduces or eliminates the initial economic benefit in the value chain;
- The deterioration of the quality of outsourced activity leads to a loss of competitiveness or even a loss of market share;
- Development of opportunistic behavior, by the provider, leads losing trust or creating conflicts and decreases the performance of the client company.
4. LOGISTICS OUTSOURCING AND PERFORMANCE MANAGEMENT:

Performance measurement allows identifying success points, satisfied clients, problems and solutions, helping the organization to understand its processes and ensuring that decisions had well made (Gunasekaran and Kobu 2007). How to measure performance is then a tool that helps identify the contributions that each company hopes to receive in return for the strategy of logistics outsourcing. Thus, organizations rely on performance indicators measuring the effectiveness or efficiency of all or part of the processes related to an objective set in the framework of a global corporate strategy (The form-Chretien 2007). These indicators are tools to help in the decision-making process; they allow the decision makers of the supply chain management (SCM) to set the objectives achieving for a given time (François, J. 2007). A supply chain is considering as an organization offering in good quality products and services, as soon as possible and at the least cost, the goal is to satisfy the customer and to ensure its competitiveness on the market. Consequently, an organization should fix goals for quality cost and time.

Thus, the literature review shows the need for an integrated system of measurement indicators to assess supply chain performance. For this reason, several research projects had focused on proposing performance indicators to evaluate the global supply chain and generating different reverential indicators: the ABC-ABM method, the BSC method, the SCOR model and the ECOGRAI method. Despite the representation and formulation of the performance indicators, these standards still very difficult to use it to evaluate the company’s logistics performance.

The models of the performance measurement indicators, mentioned above, are difficult to use, but Rodrigues' and al. (2004) model remains applicable. These authors have identified the most relevant logistic performance measurement indicators (Aboudrar, L., Elbaz, J., and Batrich, H. 2014), of which there are six in number: Logistics costs; Delivery speed; Delivery reliability; Delivery capacity; Stock rotation rate; Customer satisfaction.

Ultimately, with these theoretical contributions to the logistics outsourcing decision, this analysis had intended to reinforce the validity of these investigations and to develop hypotheses and a finalized research model.

5. HYPOTHESES AND RESEARCH MODEL:

In order, to propose a research model, which will be a question of validation in the field, it is necessary to formulate the research hypotheses; each hypothesis is the link between two variables or more from a theoretical framework, which must be synthesized.

5.1. RESEARCH HYPOTHESES:

The goal is identifying the explanatory factors of the logistics outsourcing decision and the impact of this operation on logistics performance. Transaction Cost Theory and the Resource-Based Theory had mobilized to identify these factors.

The formulation of the research hypotheses aims to answer the research problematic.

As part of this research, the general hypothesis states that the impact of the logistics outsourcing decision on the company's logistics performance will be more significant as this decision had determined by operational and strategic factors. Therefore, each relationship between the two variables is a hypothesis based on a theoretical underpinning. The following table (table 3) presents all the research hypotheses.

<table>
<thead>
<tr>
<th>Factors explaining the logistics outsourcing decision</th>
<th>Research hypotheses</th>
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<tbody>
<tr>
<td>H1: The logistics outsourcing decision is positively influencing by operational factors</td>
<td></td>
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<tr>
<td>H1.a: The logistics outsourcing decision is making in reducing and controlling costs objective</td>
<td></td>
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<tr>
<td>H1.b: The logistics outsourcing decision is making with the objective of transforming fixed costs into variable costs</td>
<td></td>
</tr>
<tr>
<td>H1.c: The logistics outsourcing decision is making with the objective of injecting liquidity following the asset recovery</td>
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</tbody>
</table>
H1.d: The logistics outsourcing decision is making with the objective of improving the performance of the outsourced function

H1.e: The logistics outsourcing decision is making in order to meet the standards of practice, quality, deadlines ...

H2: The logistics outsourcing decision is positively influencing by strategic factors.

H2.a: The logistics outsourcing decision is making with the aim of reallocating resources

H2.b: The logistics outsourcing decision is making with the aim of refocusing on the core business

H2.c: The logistics outsourcing decision is making with the aim of lightening the structure and gains of flexibility

H2.d: The logistics outsourcing decision is making with the aim of meeting an internal need

H2.e: The logistics outsourcing decision is making to prevent environmental uncertainty

H3: The logistics outsourcing decision is negatively influencing by its inherent risks

H3.a: The logistics outsourcing decision is negatively influencing by the loss of independence and know-how

H3.b: The logistics outsourcing decision is negatively influencing by the loss of control

H3.c: The logistics outsourcing decision is negatively influencing by the lack of reactivity expected of the provider

H3.d: The logistics outsourcing decision is negatively influencing by the cost problem

H3.e: The logistics outsourcing decision is negatively influencing by lower quality services rendered

H3.f: The logistics outsourcing decision is negatively influencing by the development of opportunistic behavior by the PSL

H4: The logistics outsourcing impacts significantly the logistics performance indicators

H4.a: The logistics outsourcing reduces significantly the firm’s logistics costs

H4.b: The logistics outsourcing has a significant effect on the delivery speed

H4.c: The logistics outsourcing affects significantly the delivery reliability

H4.d: The logistics outsourcing impacts significantly the delivery capacity

H4.e: The logistics outsourcing has a significant impact on stock turnover

H4.f: The logistics outsourcing affects significantly the customer satisfaction

H5: Performance indicators impact significantly logistics performance

H5.a: By reducing logistics costs, outsourcing improves company’s logistics performance

H5.b: By making fast delivery, outsourcing improves logistics performance

H5.c: By promoting delivery reliability, outsourcing improves logistics performance

H5.d: By increasing the delivery capacity, outsourcing improves logistics performance

H5.e: By optimizing the turnover rate of stocks, outsourcing improves logistics performance

H5.f: Through customer satisfaction, outsourcing improves logistics performance

The formulation of the research hypotheses makes it possible to schematize the research model.

5.2. RESEARCH MODEL:

According to Roussel and al (2002), a research model is a set of relationships making it possible to explain and understand a given phenomenon. Each relationship between two variables results in a hypothesis based on a theoretical framework and/or empirical observations from previous research.

This research model consists of the junction of three fundamental axes: the explanatory factors of the logistics outsourcing decision, its risks and the impact on the company’s logistics performance. Based on the hypothesis formulated above, the research model will be schematizing as follows figure (Fig.1):
6. CONCLUSION:

Many researchers had interested in logistics outsourcing. In the first, the investigations had limited to understand what a company is pushing to transfer its logistic activity’s execution, already done internally, to an external service provider. Today, the research on outsourcing is orienting to identify its impact on the company’s performance.

However, the transaction cost theory and the resource-based theory are the most currents mobilized to explain the outsourcing phenomenon. Most of the research had based on these two theoretical approaches, identified two kinds of explanatory factors of the logistics outsourcing decision.

Operational factors relate to the motivations of reducing costs and improving the quality of the outsourced business and the overall company’s performance: the cost control, the transformation of fixed costs into variable
costs, the injection of liquidity, the improvement of the outsourced function’s performance and the compliance with the rules and standards of practice. Other so-called strategic factors usually relate to the strategic development, the company's future competencies, the modernization of its organization and the optimization of its management: the refocusing on the core business, the search for a lighter structure and greater flexibility, the response to internal demand and dealing with environmental uncertainty are generally the strategic factors for using logistics outsourcing.

Despite the massive use of outsourcing, several companies are showing a cautious position the outsourcing idea, since this practice can cause risks for the company. Among the factors, hindering the logistics outsourcing decision, are: the loss of autonomy, the loss of control on the exchanged information, the lack of reactivity of the service provider, the appearance of hidden costs, and the development of opportunistic behavior by the service provider and the deterioration of the quality of the outsourced activity.

Also, the logistics outsourcing decision is making for a performance objective. For this reason, it is necessary to measure the performance of the outsourced activity. Several models of performance indicators had represented, but they remain difficult to apply.

On the other hand, Rodrigues and al. (2004) present a practical model contains six indicators: logistics costs, delivery speed, delivery reliability, delivery capacity, stock rotation rate, and customer satisfaction.

The research model thus proposed must be a question of validation in the field.

7. REFERENCES:


