Analysis of the Adoption of Third Party in
the Logistics Operations of a Sample of Companies
Constituted in the City of Neiva

Andrés Mauricio Navarrete Ramos
Industrial Engineering, University Corporation of Huila Corhuila, Colombia

Denicce Licht Ardila
Industrial Engineering, University Corporation of Huila Corhuila, Colombia

Jorge Bernardo Ramírez Zarta
Industrial Engineering, University Corporation of Huila Corhuila, Colombia

Ana Lucia Paque Salazar
Industrial Engineering, University Corporation of Huila Corhuila, Colombia

Abstract
The outsourcing of logistics operations has become a strategic option for companies today. In the city of Neiva, capital of the Department of Huila in Colombia, this model is recently used. In the present work, an analysis of the degree of outsourcing of the logistic activities presented in the companies of the city of Neiva, contemplating its main factors, advantages and disadvantages of its application, as well as the degree of contribution to the competitiveness of the organizations that decided to generate an outsourcing contract for said operations.

Keywords: logistics, outsourcing degree, outsourcing
1 Introduction

Logistic operations have evolved exponentially during the last decades. The technology, infrastructure, equipment and personnel have been the components with the greatest evolution, allowing a better response to the needs of its customers resulting in a better service. The logistics operators thus become an option that supports the strategy of organizations. These must adapt to the continuous change of the sector, be flexible but specialized at the same time, and constantly increase their capacity to face the challenges demanded by the management of the supply chain in organizations.

However, why do companies decide to outsource activities related to logistics? In this article we present the factors identified as those that motivate the management of an organization to outsource and how to monitor and evaluate the performance of these third parties, taking into account that every day that passes, the logistics outsourcing has been consolidated as a tool and strategic methodology to manage business [1], [2].

The population for the present work is established as a set of 100 companies incorporated in the city of Neiva belonging to different productive sectors (transport, services, industrial production, fish farming, oil & gas, financial, public sector, construction, trade, automotive and agroindustrial). This population also generates a series of factors that become disadvantages when outsourcing [2], [3]. The presence of advantages and disadvantages in a certain way is related to the culture and idiosyncrasy of the region and to this extent it is necessary to ask additionally what kind of processes are outsourced related to logistics within the organizations in Neiva. Because it is outsourced, what is the degree of outsourcing of these processes, specialized companies are contracted or not in logistics, or, in case of not being outsourced these activities, as they are developed within the organization, which resources are designated for them and in both cases, how the cost-benefit ratio has been analyzed [4], [5].

An additional group of companies present in the city of Neiva is made up of hotels. This sector has been identified as of great importance because it is a direct actor in the strengthening of tourism as one of the productive bets of the region. In this sector, performance has been characterized by poor customer service, and since companies dedicated to this activity have been constituted exponentially, the union of these is scarce and does not support the achievement of objectives. The hotels see as a competitive advantage the adoption of quality management systems, which in their support processes would support the logistics processes making them more effective. The hotels with greater capacity and that currently have these systems as a management tool; have outsourced logistics services [6], [7].

The Chamber of Commerce of Neiva [8] has identified the activities developed by the registered companies that are part of the logistics chain. Table 1.
Analysis of the adoption of third party in the logistics operations

Table 1. Logistics operator activities in Neiva

<table>
<thead>
<tr>
<th>ACTIVITY</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Municipal freight transport by road</td>
<td>67.2%</td>
</tr>
<tr>
<td>Storage and deposit</td>
<td>10.5%</td>
</tr>
<tr>
<td>River transport</td>
<td>6.0%</td>
</tr>
<tr>
<td>Coastal shipping</td>
<td>4.5%</td>
</tr>
</tbody>
</table>

Other activities with less participation are: international transport of cargo by road, handling of cargo and transport of railway.

The Chamber of Commerce of Neiva [8], [9] also identified some of the difficulties presented in these companies dedicated to the logistics sector. The main difficulty with a 74% presence in the total number of companies corresponds to the fact that the employees are hired as temporary staff, which contrasts with the fact that the same study established that 60% of the organizations have higher annual sales 250 million pesos.

Additionally, the city of Neiva, as a region in the way of technological, industrial and economic development, presents a series of its own characteristics, evidenced by the culture, norms and customs present in its inhabitants and that influence the way of doing business or manage an organization. The study indicated that 44.5% of the companies in the city concentrate their time and resources in controlling sales due to a large extent and as indicated by [10], [11]. Which isn’t counted within the organizations with the interest of knowing their own processes; nor are there any tools that identify their relevant variables, so that improvements cannot be applied or adequate information can be acquired to make timely decisions that result in better production, greater sales. In addition, these in the generation of sufficient resources to innovate in technology applied to the organization and continue to improve in its competitiveness. In contrast, only 2.5% cares to participate in processes of integration to productive chains at a national or international level. The absence of strategic planning in most companies is identified as a problem to correct according to the study of the Chamber of Commerce [8].

The municipal development plan, as well as the departmental since 2015, have contemplated and established as a bet that contributes to competitiveness the implementation of tools and logistics chains that in turn support other productive bets in the region such as fish farming, The agroindustrial sector, tourism, construction, thus seeking the improvement of the indicators that have kept the city in the low middle range in terms of competitiveness at the national level [8].

A logistics operator is then presented as an ally for those companies that decide to improve their competitiveness and after strategic planning, deliver their logistics operations such as transport, storage and distribution of products, materials in process and additional services, maquila, packaging, delivery management and returns.
Being a specialized ally, its contribution to the effectiveness of its clients’ processes becomes a benefit that represents a significant benefit to management, working with attractive income-cost relationships for clients [12], [13].

The logistics operator also allows identifying and realizing synergies between the company and the different stages of its supply chain, making it appropriate to the capacity and magnitude of this, through a structured and methodological process [14], [15].

Figure 1 shows the percentage of outsourcing of logistics operations worldwide according to [16], [17].

![Figure 1. % Outsourcing of logistics operations worldwide.](image)

### 2 Methodology

The main objective of the research is to determine the degree of adoption of outsourcing of logistics operations within the city of Neiva. A sample of 100 companies from different economic sectors is contemplated according to Table 2; to these companies an instrument is applied with the same objective of measuring the degree of outsourcing of the logistics processes, which is given an internal validation supported in a reliability analysis of cronbach coefficient [18], [19].

<table>
<thead>
<tr>
<th>VARIABLES</th>
<th>VALUES</th>
</tr>
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<tbody>
<tr>
<td>POPULATION</td>
<td>3.091</td>
</tr>
<tr>
<td>CONFIDENCE LEVEL 95%</td>
<td>1.96</td>
</tr>
<tr>
<td>ERROR 7%</td>
<td>0.07</td>
</tr>
<tr>
<td>PROBABILITY OF ACCIDENT</td>
<td>0.87</td>
</tr>
<tr>
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<td>0.13</td>
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<tr>
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<td>100</td>
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</table>
The type of company was identified for each of the 100 companies that are part of the sample. Figure 3 shows this classification.

The research was developed on six areas of interest, these are:

- Company Profile
- Competitive advantages
- Degree of outsourcing of logistics operations
- Cost benefit ratio of outsourcing
- Disadvantages and advantages of outsourcing
- Opinion of businessmen

The 100 companies identified for the analysis, domiciled in the city of Neiva are part of the following productive sectors: transport, services, and industrial production, fish farming, oil & gas, financial, public sector, construction, trade, automotive and agroindustrial [20].

In order to be able to execute an adequate analysis, the first thing that was developed was an investigation about the behavior that presented the constitution of new companies in the city, related to the sector to which each one belongs. Table 3 gives us this information [20], [21].
The variation shows us a particular behavior, although the total of companies incorporated in the city increased (27%), the capital with which they enrolled decreased (-45%).

According to the information obtained previously, we proceed to obtain the sample size to perform the respective analysis. In Table 4, we found this information.

Table 4. Sample size

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With this sample of 100 companies will work on the application of an instrument that contains questions corresponding to the following inquiries: who is responsible for logistics operations in the company, how are the employees in your company, which considers that are the advantages to outsource and if you have outsourced services or not in your operation [22], [23].

3 Results

Once the instrument for the identification of those responsible for logistics activities in the sample of companies has been applied, it has been identified that,
in most of them, the role of Manager or Administrative Chief is responsible for the development of logistics operations. You can find the other roles commissioned in Figure 4.

On the other hand, the instrument has established that, of the total sample, 54 companies claim to have outsourced some of the logistics activities required by their organization. It was possible to identify in the same way that the larger the size of the company, in relation to the number of employees, the greater the degree of outsourcing of the logistics activities. Table 5.

Table 5. Pearson Correlations

<table>
<thead>
<tr>
<th>Correlación Pearson</th>
<th>Number of employees</th>
<th>Quality of Outsourcing</th>
<th>Outsourcing Cost</th>
<th>Number of outsourced logistics activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees</td>
<td>1</td>
<td>,279*</td>
<td>0,256</td>
<td>,305**</td>
</tr>
<tr>
<td>Quality of Outsourcing</td>
<td>,279*</td>
<td>1</td>
<td>0,227</td>
<td>-0,093</td>
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<td>0,256</td>
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<td>,305**</td>
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<td>1</td>
</tr>
</tbody>
</table>

Figure 5 shows the data, which makes it possible to identify the logistics activities outsourced by the companies in Neiva, as well as the level of satisfaction with the same provided by the third party, who in all cases is a specialized logistics operator. The outsourced activities correspond to:

Figure 4. Responsible role of logistics in the company
• Transportation and distribution
• Purchases and management of suppliers
• Inventory management
• Storage
• Foreign trade
• Additional services such as marking, labeling, packaging, assembly
• Other logistic activities

The information obtained allows us to identify that, in general, companies are satisfied with the management carried out by the contracted logistics operators. The 78.95% of the evaluations place the perception in "good", 17.54% in "Excellent" and 3.51% in "Bad". It is established that there is a balance between the costs generated by the logistics operation and the perceived satisfaction of the service, hence the role of administrative manager is the most frequent in charge of the logistics operations of the company, since it is also the person who performs a control of the costs of the management of the company [14], [15].

Figure 5. Outsourced logistics activities and level of satisfaction.

The contracting with logistics operators and outsourcing these activities, according to the research, responds to the following reasons within the organization. Figure 6.
Figure 6. What caused him to outsource logistic activities in his company.

![Bar chart](attachment:figure_6.png)

Source. IBM SPSS Statistics Data Editor

The most frequent reason corresponds to the possible cost reduction with 39.4%. For this reason, it is necessary to include in the instrument, the identification of the impact of the costs of the different logistics activities outsourced by the companies in Neiva. Table 6 gives us this characterization.

Table 6. Contingency logistic activities contracted with the logistics cost ranges

<table>
<thead>
<tr>
<th>PLEASE INDICATE WHICH OF THESE LOGISTIC ACTIVITIES YOU CONTRACT OR THIRD PARTY.</th>
<th>WHERE OF THE FOLLOWING RANGES IS THE LOGISTICAL COST IN YOUR COMPANY ON SALES</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2% al 3%</td>
</tr>
<tr>
<td>Transport and distribution</td>
<td>30,8%</td>
</tr>
<tr>
<td>Purchasing and handling of suppliers</td>
<td>11,1%</td>
</tr>
<tr>
<td>Inventory management</td>
<td>50%</td>
</tr>
<tr>
<td>Storage</td>
<td>16%</td>
</tr>
<tr>
<td>Comercio exterior</td>
<td></td>
</tr>
<tr>
<td>Additional services (marking, labeling, packaging, assembly)</td>
<td>25%</td>
</tr>
<tr>
<td>Others</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source. IBM SPSS Statistics Data Editor

4. Conclusions

The logistics within the organizations has become one of the main axes to be able to guarantee the attainment of the goals in the organizations regarding the level of
sales of the products or services rendered. Outsourcing this type of activity has been
established as a worldwide practice among companies that want to reduce costs and
improve performance, ensuring that the cost-benefit ratio will be in favor of the
organization. In Europe, the United States, this practice has become widespread and
it is common to outsource activities such as transportation and distribution,
purchasing and handling of suppliers, storage.

At the level of South America, this practice is still under development, with
culture and customs in the form of doing business one of the main barriers to
outsourcing these operations with total peace of mind.

In Neiva, capital city of the Department of Huila in Colombia, a city located in a
low average position in the national competitiveness indicator, outsourcing is an
uncommon practice. However, thanks to the presence of specialized logistics
operators in the country, it has been gaining ground by facilitating outsourcing.

Only a little more than half of a sample of 100 companies from different economic
sectors in the city, have outsourced logistics activities. The main motivation lies in
the reduction of costs, but it was evidenced that there is no specialized staff
dedicated solely to logistics activities within the organization to control the
performance of the third party. To a large extent, the administrative manager of the
organizations, being aware of the cost control of the operation, is the one in charge
of the logistic activities, but has weaknesses against criteria to evaluate the
management of the operators according to their own indicators of the performance
of the supply chain. The other group of companies that do not have outsourced
logistics activities, indicates that the cost generated by the third party is greater than
that generated by the operation from within the organization, and this is
proportional to the size of the organization and by culture, it is not has peace of
mind by providing essential information about the organization to a third party.

The logistics operators have presented a good performance in general, which has
facilitated the incursion in the outsourcing of more companies motivated by the
reduction of costs in their operations. However, if companies do not incorporate
strategic management into their operations, the benefit of outsourcing logistics
operations will not be seen as support for management.

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