THE COST OF IMPLEMENTING THE LOGISTIC STUDY INTO THE COMPANY

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Abstract. *The use of the method of comparisons in time and space has led to the conclusion that the problematic of the material and human efforts made by the implementation of logistics in the company must be based upon a logistic project drawn up for the entire company, a project mobilising a numerous personnel for a long period and which demands the intervention of the logistic operators and managers of logistics, whose activity is also necessary after implementing this project in the company.*

1. Introduction

The use of the method of analysis and synthesis corroborated with the method of comparison in time and space highlights that the accomplishment of a logistic project and its implementation into the company, including the establishment of costs it creates, needs a multitude of activities which may be structured thusly:

↯. ACTIVITIES AIMING THE ACCOMPLISHMENT OF AN IMMEDIATE PROFITABILITY

Such activities are based upon three principles, such as: **consideration of globalising the operations as work technique**, meaning the determination of the priority of the processes in relation to their component operations; **intensification of the concerns of coordinating the information with the technological operations**; **synchronising the immediate individual objectives with the finality of the logistic project.** See Fig. 1.

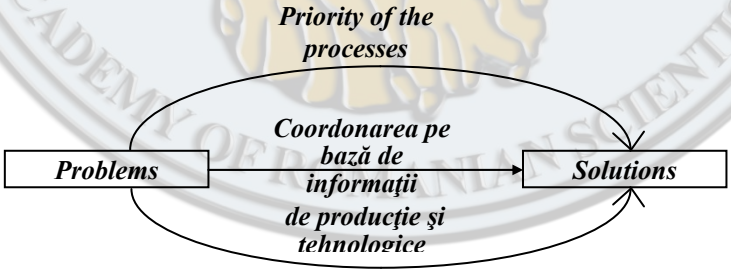

Fig. 1.
Synchronising the individual objectives with the logistic finality

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a) **Priority of the process in relation to the component operations**

The study of any operation must take into account its site – first of all – within the process it is part of and therefore within the flow where it belongs to. For accomplishing an efficient logistic change, it is recommended to use some questionnaires, the filling of which shall offer answers to the following questions: Do you always provide the coherence of the operational with the strategic? Do you thoroughly know the representation of the flows? Have you repositioned the functions? Have you performed the necessary upstream and downstream standardisations? Are you prudent enough in framing the informational system of the company? Have you communicated the data you have for drawing up the logistic project?

The answers to such a questionnaire allow the separate analysis of each operation, as well as the analysis of the way of their being within the flow they form.

b) **Coordinating the information with the technological operation**

One of the major causes for the occurrence of the primary disfunctionality - which shall be improved and even eliminated by the logistic project - consists in the disaccord between information and technological operation, meaning not harmonising the information with the technological operation which these refer to. The factors acting over the logistic flow are multiple, and the downstream activities are tributary to the coherence established between the information available at a given moment and the effective accomplishment the flow renders.

c) **Synchronising the individual objectives with the logistic finalities**

The objectives that have an individual feature within the company are not always adapted to the specific of the logistic activity. They often ignore the impact they have onto the client's or company's interest. Another failure occurs when there happens a change in the composition of a full order formed by standardised products, a fact raising special problems for the product programming service. The resolution of such disfunctionalities supposes the establishment of real objectives, as well as the intensification of the capacity of communication between the compartments belonging to various functions of the company.

↳ ACTIVITIES WHICH CONSIDER LOGISTICS AS A MEANS OF INTRODUCING THE PROGRESS INTO THE COMPANY

The thorough analysis of a logistic system needs its structured representation, which allows the anticipation of the logistic system reaction to the changes it will undergo. Any structured representation supposes the covering of three stages, such as: **1st Stage** has as aim the retention of the logistic variables of the system, the selection of which, as well as observance possibility and measure, lead to the optimum representation of the logistic system; **2nd Stage** consists in creating

some patterns of costs attached to each physical variable retained in the previous stage; **3rd Stage** allows the predetermination of the influence of various parameters over the system's behaviour and, therefore, the pattern it represents.

a) **Choosing the logistic variables**

In order to choose the logistic variables, it is necessary to know the elements of the logistic system. Let us take into account the example of a central warehouse of finished products charged with supplying the regional warehouses. It is tried to change its configuration. The objective aimed is therefore to decrease of operating costs of the central warehouse. In order to attain this objective, two elements shall be studied – which become logistic variables – such as: **flows** that shall determine the necessary human and material means of manutention at the entrance as well as at the exit; **size of stocks** that determine the necessary storage volumes and surfaces. Each of these two elements must be quantified into representative units of the real activity.

b) **Patterns of costs**

The patterns of costs consist in representing the cost variables of the logistic operations, by starting from the logistic elements retained as logistic variables.

The transportation costs occurred by supply, indicated in lei/t, can be theoretically represented by the straight line equation:

$$C_t = a + bx \qquad (1)$$

In fact, the transportation cost is actually represented by a family of equations, each one of them referring to a certain transported quantity.

Total distribution costs. The total cost of the warehouses within a distribution system is set according to the formula:

$$C_{anual} = a + bQ \qquad (2)$$

where:

Q represents the annual tonnage distributed by the warehouse.

The same result is obtained by using a linear regression performed over the assembly of the warehouses, by taking into account two coordinates, such as: the quantity sold annually by the warehouse; the operating cost (Fig. 2).

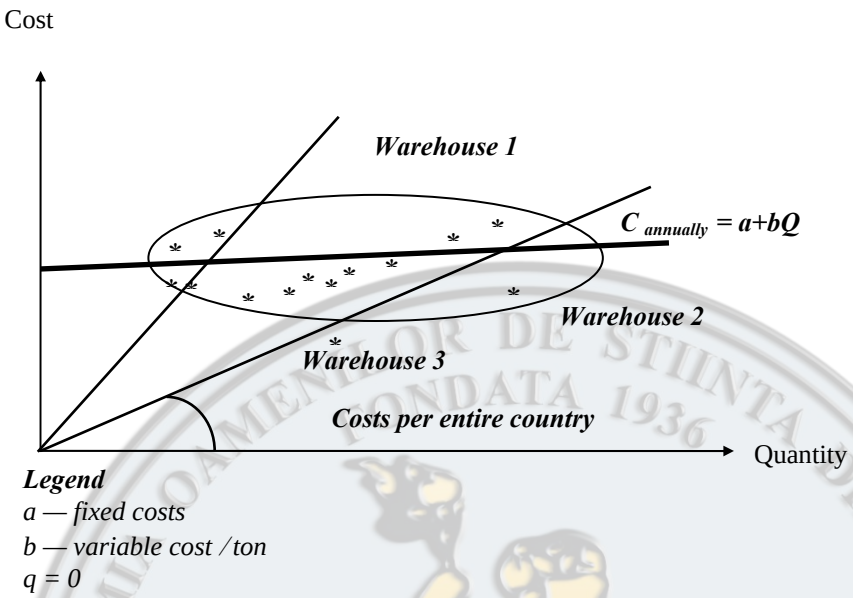


Fig. 2 ***The coordinates of the total distribution costs.***

The representation in figure no. 2 highlights a class of homogenous warehouses, the global costs of which are approximated by a straight-line and two "abnormal" warehouses. Additionally, it may be observed the simple study of the "cost per ton" is insufficient for grasping the particularities of these warehouses. Therefore, the accomplishment of such patterns of costs becomes an additional means of study and analysis, by highlighting the class of homogenous warehouses and by discovering the abnormal points which a veridical explanation must be found for.

The monthly cost occurred by the operation of a warehouse may be calculated with the formula:

$$C_{monthly} = A + B \cdot Q \quad (3)$$

where:

Q represents the tonnage monthly transiting the warehouse.

The determination of this linear pattern supposes the evaluation of two parts: a fixed part (for a given activity level) and a variable part (determined by the managing tasks, administrative management tasks, surfaces, expenses occurred by the structure and system of information).

c) **Influence of representative parameters**

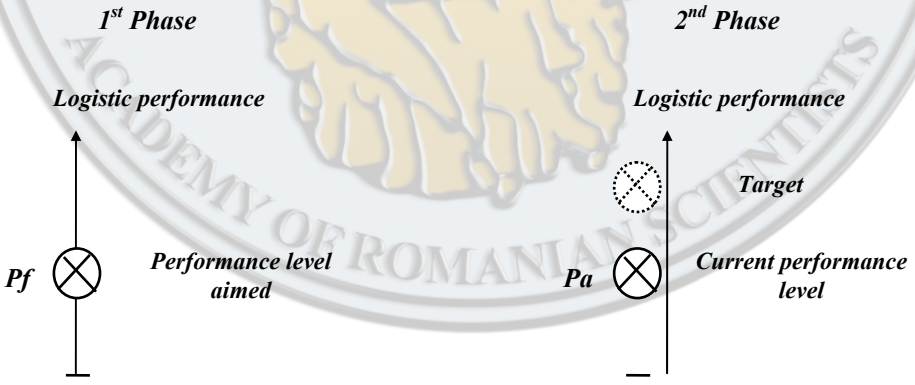
The logistic study is influenced by the representative parameters: frequency of deliveries and price of the products. The two parameters are represented by the **Histograms of orders**, accomplished by volumes or weight. They influence the decision of direct delivery from the factory or through warehouses.

The orders to be directly delivered (they have sufficient tonnages or volumes) represent an important part of the total tonnages or volumes, but occupy a relatively small ponderosity in the total order. Warehouses are therefore necessary, the number of which must be set and the position of which must be stipulated.

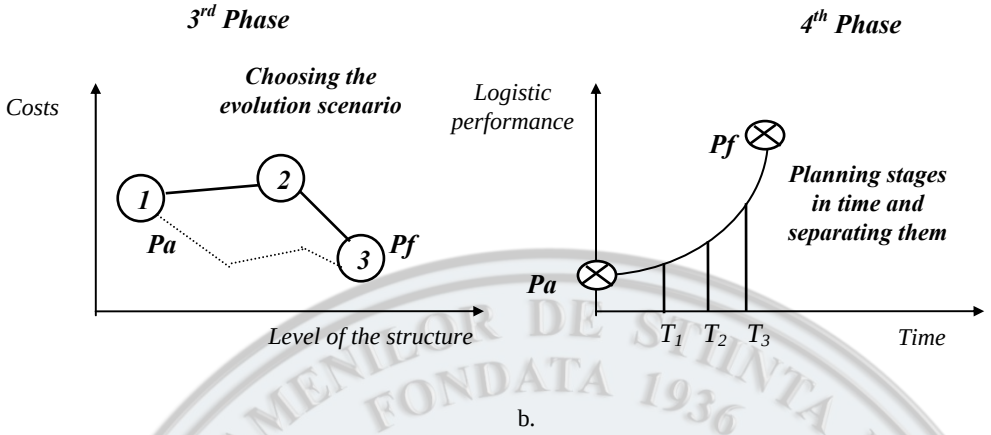
↳. ACTIVITIES OCCURRED BY THE ELABORATION OF THE LOGISTIC PROJECTS

Any logistic operator must respond to two interlocutors: to a client in the logistic chain, whom he/she cannot respond to unless they have a certain degree of autonomy and only within the logistic regulations and procedures established and within the capacities they have; to a certain hierarchic position that must rethink its role for keeping the autonomies and for focusing the actions over determining the capacities, formation, control, management, by exceptions and periodical recurrences of the major, strategic options. Such an evolution is attained only by the logistic demarche, which fundamentally changes the connections between various agents, the ratios with the hierarchical echelons and modalities of exchanging information.

Any logistic project comprises four phases, such as: **a phase for evaluating the performance level aimed for; a phase for evaluating the current performance level; a phase for defining the various scenarios of evolution; a phase for planning in time the chosen scenario.** See Fig 3.



a.



b.

Fig. 3. *The phases of the logistic project (a, b)*

The logistic projects understood as an assembly of logistic demarches have an impact over the structure as well as over the company's culture. The structural changes have led to modifying the contents of some positions in the company and to creating new rules in the dialogue and exchanges with the logistic suppliers and providers. The thorough cultural changes of structures are those performed on time. They keep the role as engine of logistics and encumber the occurrence of some restrictions at a given time, in the way of applying certain competitive logistics in practice.

R E F E R E N C E S

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