THE IMPORTANCE OF INTEGRATED LOGISTICS FOR THE COMPANY’S SUCCESS ON THE MARKET

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Abstract
In our days, logistics is considered to be an important competitive advantage. Total logistics is according importance to all logistics elements in general, mostly to the fact that they are linked between. The concept of integrated administration of material resources corresponds to the philosophy of the following models: “Business Process Reengineering” and “Lean Production”. The main advantages offered by lean production are: high productivity, low costs and short time and also improved quality. Any economic activity is profit orientated. Logistics can contribute to increasing financial performance of the company.

Key words: integrated logistics, profit, management style

JEL Codes: M11

1. INTRODUCTION

Knowing the logistics key elements is not enough, but also making sure that they are functioning as a single whole.

In the context of globalization, logistics may become, especially for the multinational companies, an important competitive advantage.

2. CONTENT

The integrated administration of the material resources is a superior level that involves a high potential of integrating key functions associated to this process. It exceeds the classical organizational models and it is promoting a new managerial philosophy that ensures a more active and independent administration of material resources in the economic units¹. Still it has to be noticed that justification of raising productivity has to be analyses separately for the first phases of implementing the concept, time when the productivity is very low². The company is making the transit to a computer based administration³.

2.1. The concept of total logistics

Total logistics is according importance to all logistics elements in general, mostly to the fact that they are interconditioned. One can not speak about storage, without taking into consideration the actual move of the goods and others. A necessary activity is planning, such in the following example: a company that produces toys requires their individual packaging for transport and commercialization, then a special wood package in order to form loading units in warehouses. Also these operations are linked to using vehicles in order to make deliveries to the final consumer. Each element has to be thought – out as part of a whole. If any problem occurs, it will affect the entire logistics system.

Some products do not require individual packing, meaning that useless costs will be avoided. In

logistics, specialist are speaking about making a certain compromise „trade-off“ formed by four levels:

1) in each element of logistics
   This is the situation in which a manager has to make a simple decision between two possible options, such as storage in a random chosen space, each time it is necessary, or using a fixed space, in a warehouse. The first one is better, because is adjustable to each situation, but is difficult to choose and find in a short period of time, and the second one is easy to choose and reserve, but it does not provide the use of the full capacity of that space.

2) between logistics elements
   That means optimization of the expenses during the route of the goods and choosing the packing that allows low purchasing costs, but also a cheaper transport due to the possibility of grouping the merchandise.

3) between companies functions
   If the company is producing a large quantity of goods in order to obtain scale economies, in this case the production costs are falling, but there are necessary storage operations, that will rise the final price of the product.

Table no. 1: Potential logistics compromises

<table>
<thead>
<tr>
<th>Compromises</th>
<th>Finance</th>
<th>Production</th>
<th>Distribution</th>
<th>Marketing</th>
</tr>
</thead>
<tbody>
<tr>
<td>High capacity production</td>
<td>Low costs per unit</td>
<td>Standardized</td>
<td>Needs storage and inventory</td>
<td>Low price</td>
</tr>
<tr>
<td>Few storages</td>
<td>Low costs</td>
<td>Has no influence</td>
<td>Simple logistics structure</td>
<td>Low customer service; big distance between the warehouse and the final consumer.</td>
</tr>
<tr>
<td>Individual package that does not give enough protection</td>
<td>Low costs</td>
<td>Has no influence</td>
<td>Few transport options</td>
<td>Product damages can occur</td>
</tr>
<tr>
<td>Low warehouse surveillance</td>
<td>Cutting costs</td>
<td>Has no influence</td>
<td>Low efficiency due to not enough surveillance</td>
<td>Sales can be lost due to difficulty of choosing and finding the products.</td>
</tr>
</tbody>
</table>


4) Between the company and external organizations

For instance, a producer sells directly to a retailer, and the last one is taking the merchandise into its own warehouses, that can mean serious cost economies.

In any company, the managers are facing three decision types: strategic, tactical and operational.

Choosing a certain way of transport for the products, can be a tactical decision for a company and a strategic one for another (it is tactical if the product is destined for a local market and a strategic in case of a company that has a global logistics system).
Table no. 2: Characteristic of the logistics decision types

<table>
<thead>
<tr>
<th>Strategical decision</th>
<th>Tactical decision</th>
<th>Operational decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>- medium and long time horizon;</td>
<td>- short and medium time horizon;</td>
<td>- day to day decisions;</td>
</tr>
<tr>
<td>- taking into consideration 1 – 5 years;</td>
<td>- taking into consideration 6 month – 1 year;</td>
<td>- checking the rules application and also how the standards are used;</td>
</tr>
<tr>
<td>- is referring to an ensemble of departments;</td>
<td>- making decisions to the department level;</td>
<td>- control through weekly and annual reports;</td>
</tr>
<tr>
<td>- compromises between the companies functions;</td>
<td>- the annual budget;</td>
<td>- implementing an operational plan;</td>
</tr>
<tr>
<td>- compromising between the company and other external organizations;</td>
<td>- financial plans;</td>
<td>- refers to goods reception, checking goods, placing orders, loading schedule,</td>
</tr>
<tr>
<td>- plans and financial politics of the company;</td>
<td>- details of the general company’s plan;</td>
<td>stocks situation, drawing up documentation, maintaining vehicles and others.</td>
</tr>
<tr>
<td>- developing a general strategic plan;</td>
<td>- refers to: vehicles type, number, dimensions, filling contracts, routes</td>
<td></td>
</tr>
<tr>
<td>- refers to: customer service, distribution channels, production location,</td>
<td>establishment, delivery schedule, the number of drivers that are necessary,</td>
<td></td>
</tr>
<tr>
<td>warehouses configuration (number and location), choosing the used way of transport,</td>
<td>warehouses structure, operations involving moving pallets, drawing up the</td>
<td></td>
</tr>
<tr>
<td>direct delivery.</td>
<td>documentation, respecting the procedures.</td>
<td></td>
</tr>
</tbody>
</table>


Logistics is dependent to the demand and requests dynamic.

A high integration level allows an efficient cooperation between the participants of the logistic chain, in order to ensure a quick response to the customers wishes. In the specialized literature these concept is called “Efficient customer response” (ECR). Hutchinson describes ECR as “better satisfaction, faster and with lower costs regarding the fulfillment of the customer’s wishes”.

The entering or exist date can be used for solving multiple problems due to their introduction in a centralized data bank, that will administrate the material resources. The effort of making changes is not only a financial one, but also involves training the personnel.

The concept of integrated administration of material resources corresponds to the philosophy of the following models: “Business Process Reengineering” and “Lean Production”.

“Lean” production is a frame – concept that was initially promoted through the book “The machine that changed the World” that presented good practices of this type in the building cars industry. The main advantages offered by lean production are: high productivity, low costs and short time and also improved quality.

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One of the main objectives for lean production is cutting all activities that are not adding value to products and services. The integrated administration of material resources presents an operative importance, as well as strategic, due to the opportunity of a contribution in competitively of a certain company. This can be realized by reducing the number of hierarchical levels, the growth of the offered services, a differentiation from the competitor’s products, a more visible orientation towards protecting the environment and the necessity of reducing the costs associated to these activities.

The lean production involves a decentralization of the personnel responsibilities, in order to allow sending important information in an effective time, to the right person.

The main indicatory that are valuable for any company that wants to improve its informational system are:
- Frequent employees communication;
- A number of informative meetings between workers and top managers;
- Percentage of written procedures;
- Percent of the equipments that are associated with the material resources administration and that are included in a computer data base;
- Number of decisions that any employee is authorized to take without further approval.

2.2. The financial impact of logistics

Any economic activity is profit orientated. Logistics can contribute to increasing financial performance of the company.

The most relevant index for measuring a company’s business success is gross profit (income - expenses). Many times statistics are based only on the turnover, that is not offering a real financial image.

Obtaining low logistics costs involves making transport activity efficient, reduction of storage expenses, but also increasing the work’er`s loyalty so they become more efficient.

Inventory can be made upon stocks, but also involve the amount of money when the company is working with cash.

In many companies the cost of materials is a very important part of the final price (about 60%).

Numerous studies have determined that a bad management of material resources has negative implication on the value of the company’s shares.

Managers have the task to find new techniques to administrate material resources in order to reduce cost, improve profitability and the return on investment (ROI).

\[
ROI = \frac{Profit}{Sales} \times \frac{Sales}{Fixed \ assets + working \ capital}
\]

Table no. 3: The medium cost of materials

<table>
<thead>
<tr>
<th>Medium materials cost (%)</th>
<th>The field</th>
</tr>
</thead>
<tbody>
<tr>
<td>Over 65</td>
<td>Industry of cotton, sugar, wool, commercial vehicles</td>
</tr>
<tr>
<td>60-65</td>
<td>Textile and bakery industry</td>
</tr>
<tr>
<td>55-60</td>
<td>Non – ferrous metals industry</td>
</tr>
<tr>
<td>50-55</td>
<td>Chemical, cement, electricity industries</td>
</tr>
<tr>
<td>45-50</td>
<td>Pharmaceutical industry</td>
</tr>
<tr>
<td>40-45</td>
<td>Vinegar, newspapers, planes industry</td>
</tr>
</tbody>
</table>

The efficient administration of material resources can have significant contribution to cost reduction of company’s material resources. There are three major costs that need to be taken into consideration: the effective material’s cost, order’s cost, stocks for materials resource’s cost and the lack of material resources cost.

Table no. 4: The effects of material’s cost reduction with 10%

<table>
<thead>
<tr>
<th>No.</th>
<th>Factor</th>
<th>Reference in thousands Euro</th>
<th>Increased turnover 10%</th>
<th>The material’s cost reduction with 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Turnovers</td>
<td>100.000</td>
<td>110.000</td>
<td>100.000</td>
</tr>
<tr>
<td>2</td>
<td>Material’s resources costs material</td>
<td>50.000</td>
<td>55.000</td>
<td>45.000</td>
</tr>
<tr>
<td>3</td>
<td>Wages costs</td>
<td>20.000</td>
<td>22.000</td>
<td>20.000</td>
</tr>
<tr>
<td>4</td>
<td>Other costs</td>
<td>20.000</td>
<td>22.000</td>
<td>20.000</td>
</tr>
<tr>
<td>5</td>
<td>Total costs</td>
<td>90.000</td>
<td>99.000</td>
<td>85.000</td>
</tr>
<tr>
<td>6</td>
<td>Profit</td>
<td>10.000</td>
<td>11.000</td>
<td>15.000</td>
</tr>
</tbody>
</table>

Profit change: +10% +50%

Source: Wannenwetsch 2007

According to this table, materials cost reduction with 10% determines a raise in profits of 50%.

The effective material cost is depends on the acquisition price and the quantity.

Table no. 5: Determining the acquisition price

<table>
<thead>
<tr>
<th>Catalog price</th>
</tr>
</thead>
<tbody>
<tr>
<td>+ The minimum quantity to order / – Discounts of quantity</td>
</tr>
<tr>
<td>- other reduction types (such as repeated purchase, special offer) and solvency</td>
</tr>
<tr>
<td>= The targeted purchasing price</td>
</tr>
<tr>
<td>- sconto</td>
</tr>
<tr>
<td>= The net purchasing price</td>
</tr>
<tr>
<td>+ Transport cost, Insurance cost</td>
</tr>
<tr>
<td>+ The cost of packing</td>
</tr>
<tr>
<td>= The purchase price</td>
</tr>
</tbody>
</table>

The cost of orders is measuring the costs associated to launched and processing orders. The size of the order’s cost depends on the frequency of orders and not on quantity.

This costs are strongly influenced by the company’s policy. The order’s costs can include the costs for calculation needs, stocks, quality control (only a part), market research about material resources, suppliers selection and other administrative costs (such as: phone, internet, checking bills, working paper and others).

Stocks for materials resource’s cost involves fixed and variable costs. To have fixed costs means that they do not depend on the stocked material resources (such as: maintain the spaces, heat, electricity, personnel, rent and others).

The lack of material resources cost appears in the shape of opportunity costs. That is the case for instance of not respecting the schedule terms for each activity.

Traditional models for administration of the material resources are very easy to use, because they are conceived as a manual process. They are based on a known demand, which it does not occur in real life.

The new tendencies in the materials resources administration are based on integrated management, meaning that they are taking into consideration the complexity of the activities involved in planning the necessary material, planning the stocks, controlling the stocks and others. If these processes are separated, a lot of conflict situations can occur.

The main advantages offered by an integrated materials resources administration are:

- A better accounting of the material resources, due to the fact that there is a single central organizatory entity responsible for this action;
- A better coordination of the use of material resources, due to responsible and trained personnel that is using efficiently the materials;

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- raising performance, due to the reduced time between placing an order and receiving the materials;
- A better adjustment to the electronic systems for materials administration, due to the existence of a central unity responsible to collecting data regarding materials;
- Better opportunities for collaboration and development, due to the shared work inside the integration.

2.3. The phenomenon of globalization

In the recent period, the number of large companies with international activity is continuously increasing. They need to adjust the logistics system to the requirements of covering significant geographical areas.

The brand may be a global one, also the production, the inventory system can be centralized, but the necessity of delivering products in specific regions is a local one.

Usually, the companies are using specialized distributors for each market and for every product.

To be dependent on a large number of distributors, presume using a large time period for a product to reach the final consumer, supplementary costs, difficult management, using combined ways of transport, difficulty in estimating the period of transit and others.

There is a big logistics challenge in reducing the costs and deliver in time the necessary goods.

The following management styles are used:

1) Direct product profitability DDP:
There are calculated costs for each type of product. It is not used an estimated cost for a group of products. Also, all costs are carefully observed and compared to a reference standard cost for each logistic element, in order to prevent possible problems and solve them.

This system is important also in developing marketing strategies.

2) Materials requirement planning MRP:
This is a computer inventory system, that offers accurate information about the materials necessary of the company. It offers support for storage and transport activities.

3) Just in time JIT
It refers to the useless costs, that can determine that the final price will rise. The goods production has to respect clients wishes, their quality to be appropriate, to eliminate wastes (in production, inventory, placement, storage and others).

We have to analyze carefully each situation, because, for instance making lots of small dimension transports to a retailer, in order to avoid accumulation of stocks, can determine waste of time and high transport costs.

2.4. The competitive advantage due to logistics

The general attitude towards logistics has changes in the recent time. This was perceived negatively, as being the main cause of important costs, but developing an efficient system can reduce costs and have a positive impact on the final price of the products.

Logistics is an addition of specific activities, such as:

1) Key activities
department:
- identification of customers needs and those reflection in customer service activity;
- the determination of the satisfaction level for the clients regarding the granted services.

b) transport:
- selecting the way of transport;
- ensuring merchandise protection;
- the transporter’s route;
- the vehicle’s schedule;
- choosing the right equipment;
- fulfilling the documentation;
- pallets administration;
- cashing administration;
- payments administration;
- general audit.

c) managing stocks:
- the raw materials, parts and final products storage policy;
- developing forecasts regarding parts of products and final products;
- the storage points identification;
- establishing the number and dimensions for the storage points;
- using strategies such as push and pull.

d) informational flows and processing orders:
- orders accounts and conducting sales;
- methods of information processing;
- establishing methodologies regarding orders processing.

2) Support activities:
   a) storage
   - establishing storage space;
   - establishing the stocks size;
   - configuring the storage space;
   - stocks accounting.

   b) processing materials
   - selecting equipments;
   - replacement equipments policies;
   - loading/downloading;
   - the merchandize’s display in the warehouse.

   c) acquisition
   - choosing suppliers;
   - establishing a schedule for raw materials supply;
   - establishing the quantity of the necessary raw materials.

   d) protective packing for:
   - moving products;
   - storage;
   - protection against damages or lost.

   e) cooperation production – transport – operation for:
   - specific quality units;
   - deadline for production;
   - the schedule for raw materials supply;
   - coordination of components delivery.

   f) information about:
   - collecting, storage, moving goods;
   - data analysis;
   - conducting control procedures.

Although packing goods is not considered to be a key activity, but a support one, one does not has to underestimate its value. Each logistic activity is vital for obtaining a general success.

Packing can be:
   a) primary – what the customer see when the purchase the product and has mostly esthetic purpose;
   b) secondary – the goods are grouped into a unit, usually a thin cardboard box or a transparent sheet;
   c) tertiary – includes all activities in order for the product to safely reach the consumer.

The objectives of packing refer to:
   1) protecting transit goods against the mechanical deterioration, such as: breacking, crushing, bending (around 43% of the complains causes);
   2) protecting goods against water damage: rain, floods, see water (around 15% of the complain causes);
   3) protecting goods against thefts (21% from total complains).
   4) other causes: fire, delays, accidents and other.

An example for the packing importance is the Chinese market, that represented a challenge for the american computer producing companies. IBM was confronted with accusations that is selling used equipments, due to the fact that computers were packed in two layers of plastic and then in a cardboard box, which was not enough against the dust from major cities, especially Beijing, where the computers were reaching their consumers dirty. Adding an additional wrapping for the box solved the problem. An IBM manager said14, about the necessity of a resistent packing for deliveries in remote areas that the carriers are throwing the goods in the coaches”.

3. CONCLUSIONS:

Logistics makes possible for goods to become available to consumer, in safety conditions, at the lowest possible price in a determined location.

In a very competitive market, the logistics expenses can offer an important competitive advantage to the companies that are developing an efficient system.

The competitive advantage comes from services that are adjusted to special requirements of the companies' products, making costs more efficient for each logistics element, acting responsible, offering trustworthy services, a good information, flexibility, a good use of capacity, efficient inventory and lost prevention.

4. REFERENCES:


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