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THE IMPORTANCE OF INTEGRATED LOGISTICS FOR THE COMPANY`S SUCCES ON THE MARKET

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Abstract In our days, logistics is considerd 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 comapany.

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 units[1]. 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 low[2]. The company is making the transit to a computer based administration[3].

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 occures, it will affect the entire logistics system.

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

[1] Fieten, R.(1994) - *Integrierte Materialwirtschaft – Stand und Entwicklungstendenzen*, 3. Auflage, Leinfelden- Echterdingen.

[2] Ahlstrom P., Karlsson C. (1996) - *Change processess toward lean production: the role of the management accounting system*, International Journal of Operations&Production Management, Vol. 16, No.11.

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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 expences during the route of the goods and choosing the packing that allows low purchasing costs, but also a cheeper trasport due to the possibility of grouping the merchandise.

3) between companies functions

If the company is producing a large quatity 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

Compromises	Finance	Production	Distribution	Marketing
High capacity production	Low costs per unit	Standardized	Needs storage and inventory	Low price
Few storages	Low costs	Has no influence	Simple logistics structure	Low customer service; big distance between the warehouse and the final consumer.
Individual package that does not give enough protection	Low costs	Has no influence	Few transport options	Product damagers can occur
Low warehose survailance	Cutting costs	Has no influence	Low efficency due to not enough survailance	Sales can be lost due to difficulty of choosing and finding the products.

Source: Rushton A., Croucher P., Baker, P. – The Handbook of Logistics & Distribution Management, The Chartered Institute of Logistics and Transport (UK), 4th Edition, 2010.

4) Between the company and external organizations

For instance, a producer sells directy 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 decisions types: strategical, tactical and operational.

Choosing a certain way of transport for the products, can be a tactical decizion 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 logistcs decision types

Strategical decizion	Tactical decizion	Operational decizion
- medium and long time horizont; - taking into consideration 1 – 5 years; - is reffering to an ensemble of departments; - compromises between the companies functions; - compromising between the company and other external organizations; - planns and financial politics of the company; - developing a general strategic plan; - reffers to: customer service, distribution channels, production location, warehouses configuration (number and location), choosing the used way of transport, direct delivery.	- short and medium time horizont; - taking into consideration 6 month – 1 year; - making decizions to the department level; - the annual budget; - financial planns; - detalis of the general company`s plann; - reffers to: vehicles type, number, dymensions, filling contracts, routes establishment, delivery shedule, the number of drivers that are necessary, warehouses structure, operations involving moving pallets, drawing up the documentation, respecting the proceedures.	- day to day decisions; - checking the roules aplication and also how the standards are used; - control through weekly and annual reports; - implementing an operational plann; - reffers to goods reception, checking goods, placing orders, loading shedule, stocks situation, drawing up documentation, maintaining vehicles and others.

Source: Rushton A., Croucher P., Baker, P. – The Handbook of Logistics & Distribution Management, The Chartered Institute of Logistics and Transport (UK), 4th Edition, 2010.

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 thise 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[4].

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"[5] 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[6].

[4] Yuthas K., Young S.T. (1998) - *Material matters: Assessing the effectiveness of materials management IS*, Information & Management.

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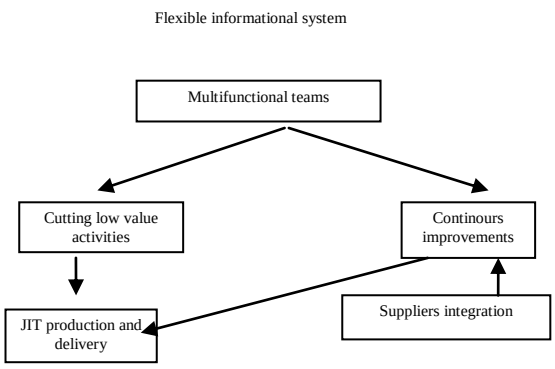

Figure no. 1 Lean production model

One of the main objectives for lean production is cutting all activities that are not adding value to products and services[7].

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[8]:

- 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 comapany.

The most relevant index for measuring a company`s business succes 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 worker`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 companies shares[9].

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 = (Profit/Sales) x Sales/ (Fixed assets + working capital)

Table no. 3: The medium cost of materials[10]

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

[7] Womack J., Jones D. (1996) - *Lean Thinking: Banish Waste and Create Wealth in your Corporation*, Simon&Schuster, New York.

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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%

No.	Factor	Reference in thousands Euro	Increased turnover 10%	The material`s cost reduction with 10%
1	Turnovers	100.000	110.000	100.000
2	Material`s resources costs material	50.000	55.000	45.000
3	Wages costs	20.000	22.000	20.000
4	Other costs	20.000	22.000	20.000
5	Total costs	90.000	99.000	85.000
6	Profit	10.000	11.000	15.000
	Profit change		+10%	+50%

Source: Wannenwetsch 2007[11]

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

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

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[12]. If these processes are separated, a lot of conflict situations can occur [13].

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;

[11] Wannenwetsch (2010) - *Integrierte Materialwirstchaft und Logistik*, 4. Ed, Springer, Heidelberg.

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[13] Chen, F. (1999) - *Decentralized supply chains subject to information delays*. Management Science 45 (8).

- 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 geografical areas.

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

Usualy, 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, suplimentary costs, difficult management, using combined ways of transport, difficulty in estimating the period of tranzit 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 refference standard cost for each logistic element, in order to prevent possible problemens 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 reffers 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 apropriate, to eliminate wastes (in production, inventory, placement, storage and others).

We have to analyze carefuly 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 perceved negatively, as beeing the main cause of important costs, but developing an efficinet 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*

a) *standards of the customer service 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;
- enssuring merchandise protection;
- the transporter`s route;
- the vehicle`s shedule;
- choosing the right equipment;
- fulfiling the documentation;
- pallets administration;
- cashing adminstration;
- payments administration;
- general audit.

c) *managing stocks*:

- the raw materials, parts and final products storage policy;

- developing forcasts regarding parts of products and final products;

- the storage points identification;
- establishing the number and dimensions fo 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;
- estabilishing methodologies regarding orders processing.

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

b) *processing materials*
- selecting equipments;
- replacement equipments polices;
- loading/downloading;
- the merchandize`s display in the warehous.

c) *acquisition*
- choosing suppliers;
- establishing a shedule for raw materials supply;
- estabilshing 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 quatity units;
- deadline for production;
- the shedule for raw materials supply;
- coordination of components delivery.

f) *information* about:
- colecting, storage, moving goods;
- data analysis;
- conducting control proceedures.

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 succes.

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 cardbord box or a transparent sheet;

c) *tertiary* – includes all activities in order for the product to safely reach the consumer

The objectives of packing reffer 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 agains 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 confrunted with accusations that is selling used equipments, due to the fact that computers were packed in two layers of plastic and then in a cardbord box, which was not enough against the dust from major cities, especially Beijing, where the computers were reaching their consumers dirty. Adding an aditional wraping for the box solved the problem. An IBM manager said[14], 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 efficent system.

[14] Hamilton, D. (1996) – *Untamed Fronier: PC Makers Find China is a Chaotic Market Despite its Potential,* The Wall Street Journal, April 8.

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 trust worthy services, a good information, flexibility, a good use of capacity, efficient inventory and lost prevention.

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