

## PERFORMING INDUSTRIAL LOGISTIC SYSTEM A CHANCE TO CREATE COMPANY COMPETENCE¶

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**Abstract:** Logistics recognized as a scientific and practice activity bringing competitive advantage gains new valences nowadays. It is known that each company wants to obtain products / services at the lowest possible cost without affecting their quality. Logistics becomes an instrument in achieving these goals and at the same time enables the promotion of customer-supplier relationships. Logistic attributes such as time, quality and cost of the logistics system should focus on adapting them to the needs and expectations of customers. Starting from the need to add value to the customer without significantly increasing costs, logistics activities need to be integrated with other functions such as marketing, sales, manufacturing, finance, information technology, etc. If not long ago the logistics-specific activities were grouped together with other activities, the literature now insists on their strategic importance. The paper aims to highlight several ways to reduce the costs and achieve competitive advantage that depend on efficient and effective managing, so excellence logistic activities. The excellence of logistics activities is reflected in the price of the finished product, which can affect up to 85%, depending on the industry. The paper highlights how an efficient logistics system leads to the growth of turnover and profits of companies with concerns in this respect.

**Key words:** industrial logistic system, performance, efficiency.

### 1. INTRODUCTION

Logistics through its activities can create competitive advantage, positively influencing the market share and profitability of the enterprise if it is considered a strategic responsibility, not just as a simple activity.

Logistics involves a management process that operates the flow of goods and related information, from the origins of the technological operations to the final products/services, in order to adapt to customer requirements.

The specialized literature explains the interface between the two activities – marketing and logistics – by the fact that the latter has the task of ensuring the effective satisfaction of the demand generated by marketing [2].

In a systemic approach, the interface between marketing and logistics is presented in Fig. 1. The link between logistics and marketing can be found in one of the traditional 4, marketing – product, price, promotion and place. Marketing deals very well with the first three of them, but the place is often neglected.

Here is where logistics makes its magic by making the product available in the quantity demanded by customer, right at the moment he wants it and at the place he choose himself.

Internationally, logistics is a competence that connects the business with its customers and suppliers

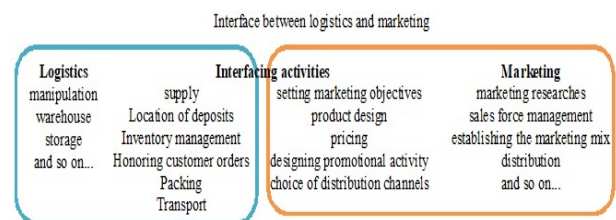


Fig.1. Interface between logistics and marketing.

through two interrelated flows - the flow of commodities and the flow of information.

At the level of a manufacturing enterprise, the logistics system includes the components shown in Fig. 2.

The efficiency of logistics involves the correlation of supply, activities to support production and physical distribution, activities that take place inside the company and the interface with downstream and upstream sequences within the marketing channels.

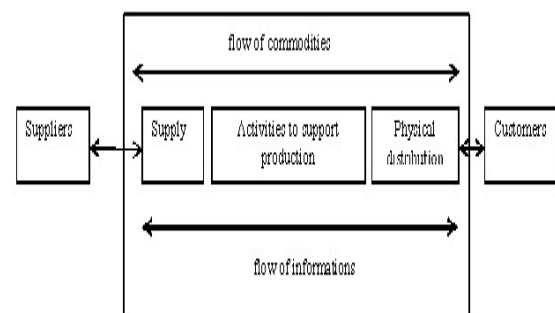


Fig. 2. Logistic system.

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The information flow allows integration of logistics fields.

Exchange of information is very important both within organizations and between companies because it facilitates the planning and control of day-to-day operations.

The logistics areas are integral parts of the value creation process.

Logistic system needs to be focused on what is really relevant for the customer, and develop a solution that may fulfill customer's availability requirements in terms of time, location and specific product – good or service.

A company will only perform according to what its suppliers and customers allow it to perform. If they fail the firm will also not succeed, either by not being able to deliver, or by developing higher levels of inventory for use in case the supplier fails. This last option would, obviously, represent a high investment in terms of working capital and therefore a higher risk for the business.

Logistics operations are correlated with the value chain that is a tool for identifying new ways to create more value for the customer.

Logistics processes include direct logistics and reverse logistics. Reverse logistics implies a series of operations part of a supply chain system that aims to return products from downstream members to upstream processing, reprocessing products and rebuilding them. Reverse logistics management is linked to many different measures that are implemented in the supply chain.

In reverse logistics, companies are concerned about maximizing profits and less cost savings.

Supply chain coordination is seen as a situation where the profitability of the supply chain can be maximized. Reversible logistics, linked to the global sustainability trend, drew the attention of an increasing number of researchers into the management of operations in the supply chain.

## 2. VALUE

Value can be assumed as the amount of money customers are available to pay for a product, therefore organizations have to promote activities that are value generators for the customers otherwise they will not purchase the product.

Companies must generate value to the customers otherwise they will not purchase the product. But customers are not the only entity for which firms must create value. They must generate value also for the stockholders and for the organization itself.

The investors want to receive a return on the investment they have made.

On the other hand, the company must generate value for those that work in it. It must allow them to get satisfaction from their work.

The employees provide services for the customers so the more motivated they are the better services provided.

Serving the customer is not only providing a set of services and satisfying the customer, but also make sure that he/her understands that those activities are being performed. Otherwise he/her may not be available to pay

for them, may consider the product too expensive, even can happen not recognize the value they are receiving.

According to an operations perspective, competitive advantage by:

- Cost – by focusing on lowering the direct costs of production;
- Quality – focused on the process. A process with a good quality will also reduce the resource consumption by using materials instead of wasting them because of mistakes;
- Time – is a competitive advantage when presenting products to customers. Firms must be able to fast serve customers when compare with the competitors and guarantee delivery time;
- Flexibility – being able to compete on flexibility means that the change required in order to continue to provide fast and effective value to the customers.

These dimensions force firms to prioritize their processes in order to focus on some of them, but never all in the same time.

The on-line environment has made possible the long-term development of the relationship between vendors, customers, distributors and has led to the emergence of partnership, which has become a refinement for the marketing and logistics practice of performing firms.

Now competition begins to take place not between individual companies but between business networks.

Achieving the positive outcomes targeted by the parties in the partnership relationship is conditioned by:

- everyone's efforts to be better today than yesterday;
- the importance that each assigns to the partnership;
- mutual dependence;
- each part to be willing to invest in partnership;
- permanent communication;
- adapting to various situations;
- legalization;
- honesty.

The advantages of working with customers and suppliers within the supply-supply chain have opened new perspectives in logistics development and its contribution to value creation has been reconsidered.

Harmonizing your own efforts with those of your suppliers and customers is the condition of any company's success.

The acquisition partnership is worth commitment both to customers and suppliers, regardless of their size, guaranteeing a long-term relationship based on clear, precise and commonly agreed objectives based on the desire to be competitive on the market.

The idea behind the partnership is that by working together as a team, customers and suppliers can reduce total cost, improve quality, and accelerate product marketing on the market in a much more effective way than if they were opponents.

The objectives of such a partnership relationship are to improve the following:

- design and quality of products;
- delivery times;
- the cost of production;
- stock levels;
- cash flow;
- availability of resources and skills.

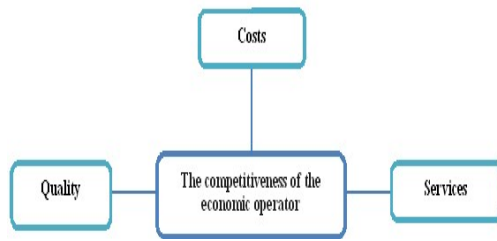


Fig. 3. The competitiveness of the economic operator.

Current competition is not just about how companies produce in their factories but what they add to products in the form of packaging, after-sales services, advertising, certain funding, delivery arrangements, storage facilities and other things on that people put the price [5].

### 3. CUSTOMER SERVICE

Serving the customer is not only providing a set of services and satisfying the customer, but also making sure that customer understands that those activities are being performed.

Usually performing a set of activities involves costs which will increase the cost of final product.

Any customer will evaluate the company service by analyzing the pre-transaction elements, transaction elements and post-transaction element.

The main service characteristic mentioned when analyzing a logistical service is its level. Service level is a probability to fulfill the required conditions. If time delivery has level 95% means that 95 out of 100 deliveries are fulfilled on the due date.

The desired level should be as close to 100% as possible involves higher costs. So a trade-off of attributes (time, costs and quality of the service provided) is required to identify the best solution possible for each market segment, or customer.

Maximizing sales does not amount to maximizing profits.

Providing a very high level of service can mean a considerable increase in stocks.

Logistics serving has an important role in maintaining the supplier's customer base. A level of service superior to competitors, under the same conditions of quality and price, can increase customer loyalty.

Lowering the supplier's logistics service level raises a series of customer penalties. Failure to meet customer expectations in terms of service has negative repercussions both on sales and company image.

The logistics serving strategy needs to be adjusted periodically, depending on the mutations that occur in terms of customer needs. Globalized markets increase the importance of serving strategy to gain competitive advantage and increase customer loyalty.

By offering a return policy, where customers can return purchased items using marketing tools and a competitive strategy to substantially increase customer satisfaction, sales will growth by raising trust in the company.

A return policy can be materialized in several forms such as: full or partial refund of the sale price, product change, deposit or no refund.

The type of return policy may vary from one enterprise to another or from one industry to another depending on the specifics of the products.

Companies that choose return policy as a competitive tool need to be aware of its impact on sales prices and storage and inventory decisions.

The output of all logistical activity is customer services.

Serving customers is one of the most powerful elements at the disposal of the organization looking for competitive advantage and is often the least well managed.

### 4. WAREHOUSE MANAGEMENT

Warehouse management incorporates many different aspects of logistic operations which inbound and outbound logistics, even operational activities part of logistical system that allows firms to achieve costumer service objectives.

Nowadays warehouse isn't just a place to store inventory but is use to perform activities on products and add value to them.

There are two main layout shapes for the warehouse: Straight-through layout, where is an inbound area different from the outbound area, and the flow of materials is in straight line, similar to manufacturing lines.

The advantages are:

- Reduce the travel time for products;
- Reduce internal traffic complexity;
- Allow the unloading of cargo and direct loading to another dock.

U-shaped layout where reception and shipping are performed in the same docking. It allows:

- A reduction of the average travel distances;
- A reduction and a shipment space;
- Products with more rotations should be placed near the in/out area.

In changing environments, with short life cycle products, warehousing is fundamental [1]:

- Reduces inventory investment;
- Increase inventory turnover;
- Reduces infrastructure investment.

To increase effectiveness in warehousing it must classify products. The most used method is the ABC classifications (also named Pareto rule or 80/20 rule), which recognizes that not all products have the same characteristics or degree of importance [4].

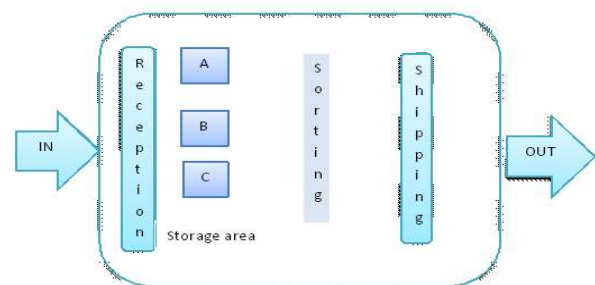


Fig. 4. Straight-through warehouse layout.

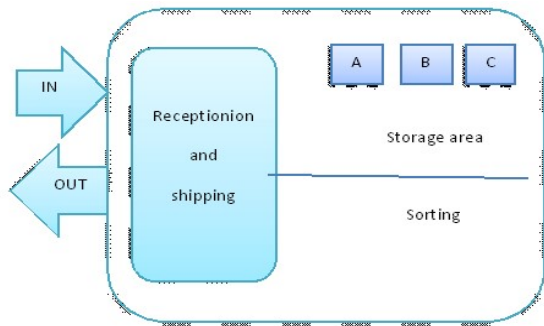


Fig. 3. U-shape warehouse layout.

Warehouses should store products according to their features. In making the storage plan, the variables commonly tracked are: volume, mass, value, and rotation of the product.

After classifying the products, their placement in the warehouse should be concordant with the classification A-B-C.

This ABC analysis is used not only in warehouse product placement, but also in most operation activities. Retailers rely on a similar analysis, but focus not on the minimizing costs but one maximize their potential sales, that is instead of placing products from “A” class near the in/out areas, they placed them in areas further from the entry/exit locations to force customers to pass all the other less interesting products in order to reach the more consumed "A" products.

Warehouse operations consists on mixing, consolidating, storage and assembly activities.

The degree of automation is very important in the warehouse. The higher it is, the longer of activities are less, they are more precisely and the number of people serving the warehouse is lower.

## 5. DECISIONS IN TRANSPORTATION

The role of transportation in logistics operations has changed very much.

As a result of a global economy, products travel the world to reach customers mostly with no limitations in terms of local.

A wide range of transport alternatives forces the organizations to carefully plan transportation in order to minimize costs and maximize value.

To select the most suitable transportation method, firms have to define what are the logistic dimensions and competitive advantages for each product and adopt the transport that best serve those dimensions.

Customer requirements must be taken into account, the need for the product, when the customer wants the product, the quantity and the place [2].

The type of product influence the transportation method so products with high value need different approaches and products that do not deteriorate may be transported using slower methods which are cheaper.

## 6. SALES

Disposal has as its main objective the sale of products from the company's manufacturing profile, in terms of efficiency.

The dismantling involves the undertaking of specific activities, including the development of marketing studies, in order to secure the commercial contracts and orders. It is strictly necessary to know the demand for the product, the situation of the competition, if there are new products that can be assimilated, if the products require modernization, reduction or even stopping the production.

Maximizing sales and maximizing profits are different business goals.

Maximizing sales requires a business approach where the company's primary goal is to generate as much revenue as possible.

Maximizing profits is a goal by which the company plans to generate the highest net revenue over time. This can also be done from other activities not just from selling products.

The main difference between maximizing sales and maximizing profits is given by financial intent. Sales or revenue are the cash flow generated by the sale of goods and services. Having the goal of maximizing sales will not necessarily produce profits, as companies often sell lost products just to generate some revenue. Maximizing profits requires not only the sale of a significant volume of goods, but the maintenance of a reasonable profit margin.

One of the most visible differences between maximizing sales and maximizing profits is given by time orientation. The goals of maximizing sales target a short time. Companies often want this goal to build their customer base or to steal customers from competitors. This increases cash flow and sells excess inventory.

Maximizing profit is a goal that targets a long time horizon. During this time, the company plans to position itself on the market, maintain and be successful in the long run.

Maximizing profit is the main long-term goal of any successful business. This does not eliminate the goals of maximizing sales that can work.

Companies sometimes use sales maximization goals for various reasons and at different times.

Of the times when companies choose to maximize sales for short periods of time, can remember: the moment of launching the business, near the end of the fiscal year, usually in slow-moving stocks, when the business collapses and when it accumulates excess inventory.

The long-term focus will be on maximizing profits. Profit maximization risks are relatively limited.

The business must work diligently to create the perception of its value in the market. Sales maximization objectives pose significant risks to maximize long-term profit. Companies advertise to be known on the market and build the sense of value customers have for their products. The constant reduction of costs to generate revenue leads to a price orientation towards the market and an advantage for achieving competitive advantage. If a business misconfigured sales objectives, it can compromise the success of maximizing long-term profit.



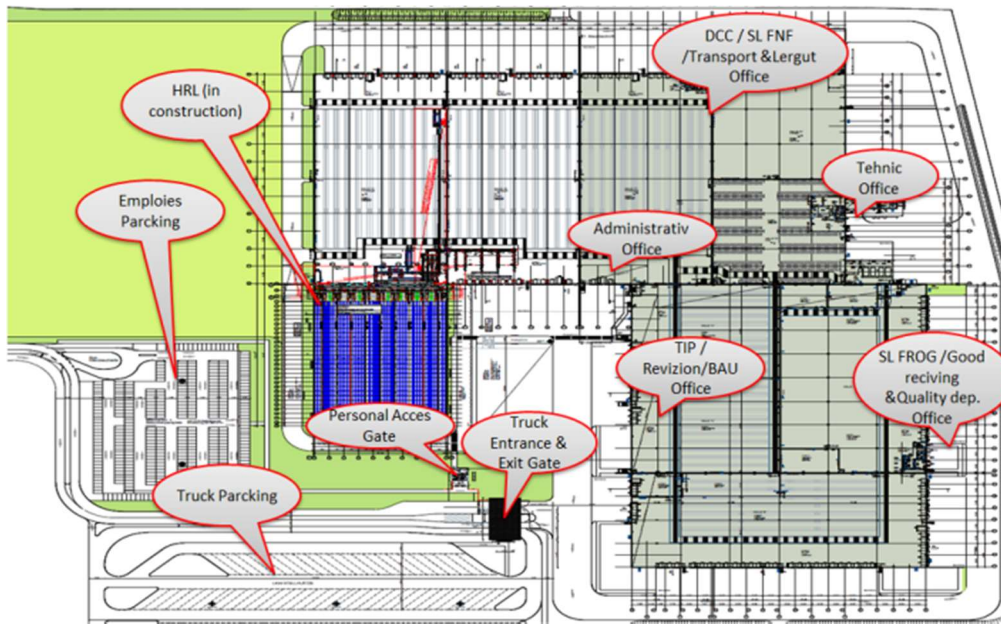


Fig. 4. Presentation of Logistic Center Kaufland from Turda.

## 7. AN EXAMPLE OF A COMPANY THAT HAS AN EFFICIENT LOGISTICS SYSTEM AND OBTAINS RESULTS THAT ENSURE COMPETITIVE ADVANTAGE

Kaufland in Romania owns an efficient logistics system. Kaufland was inaugurated on 01.06.2015, in the Turda Logistics Center, an ultra-modern automatic hall designed to meet the most demanding operational requirements, operating at high efficiency parameters with minimal energy consumption.

The entire building has a capacity of 32,000 pallets, it covers an area of 7,000 square meters, it is 42 meters high and 10 storage levels.

The HRL warehouse is operated by nine automatic forklifts that serve the 32,000 storage spaces non-stop, being 5 times more efficient than the standard forklift trucks. Although weighing 22 tons each, they can reach 30 seconds from one end of the HRL, making 120 simple races in one hour.

The advanced warehouse management system ensures high efficiency of the entire logistics flow. Inside conveyor system with the capacity to manage over 2400 pallets a day through 4 in-door control points and 4 outboard control points, and the in-door automatic forklift system can handle about 1,000 pallets in storage and around 990 in the output process and also about 400 pallets in stock transfer within the automated warehouse, all of these processes running at a productivity of 200 pallets / hour.

Figure 5 shows the Goods Entry Point.

The main activities carried out in Turda warehouse:

- Goods reception;
- Quantitative and qualitative verification of the goods;
- Storage;
- Transforming orders into pallets to be delivered;
- Picking;
- Preparing cargo for transportation;
- Transportation to shops.
- Secondary activities:



Fig. 5. Goods Entry Point.

- Taking packs from stores;
- Shopping Cart Repairs;
- Repairing pallets;
- Sale of pallets;
- Sale of film and other recyclable materials;
- Machine Repair under its own direction (domestic and branch machines).

The Department of Transport records:

- Trucks delivered / day: 90-110;
  - Pallets delivered / day: 3300;
  - Food / Non-Food: 2220 pallets;
  - Fruits and Vegetables (including plants): 430 pallets;
  - Frische (MoPro./Carne/Mezeluri): 350 pallets;
  - Number of contributors: 9.
- HOT DAYS (Easter 2017):
- Trucks delivered / day: 205;
  - Pallets delivered / day: 6300.

This efficient logistics system increases the turnover, profit and, implicitly, the satisfaction of customers who enjoy daily fresh products at a good price / quality ratio.

Between 2015 and 2017, turnover was in line with the data presented in Table 1.

By representing graphically the data in Table 1 the chart in Fig. 6 results.

Between 2015 and 2017, profit was in line with the data presented in Table 2.

By representing graphically the data in Table 2 it results the diagram in Fig. 7 results.

Top of the retail companies after turnover in 2017 is shown in Table 3.

By representing graphically the data in Table 3 the diagram in Fig. 8 results.

Table 1  
Evolution of turnover in the period 2015–2017

Year	Turnover [million.lei]
2015	9.174
2016	9.691
2017	10.087

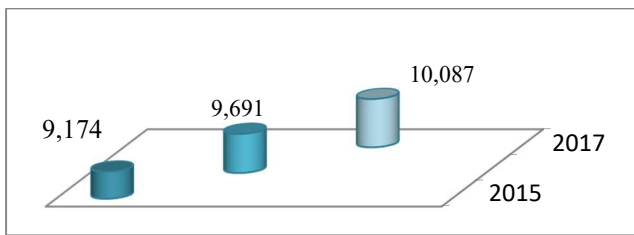


Fig. 6. Evolution of turnover in the period 2015–2017.

Table 2  
Evolution of profit in the period 2015–2017

Year	Profit [million lei]
2015	649
2016	653
2017	670

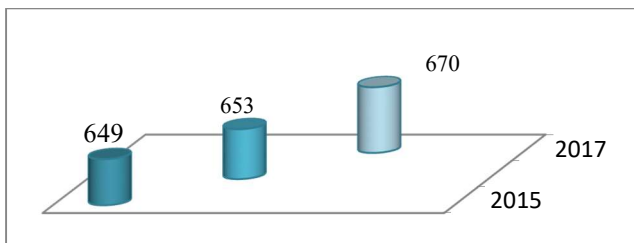


Fig. 7. Evolution of profit in the period 2015–2017.

Table 3  
Top of the retail companies after turnover in 2017

Companies	Turnover		Variation 2017/2016 [%]
	2017	2016	
Kaufland	10.087	9.691	4,08
Carrefour	6.749	5.674	18,95
Lidl	6.510	5.578	16,71
Auchan	5.223	4.895	6,69
Mega Image	4.910	4.325	13,53

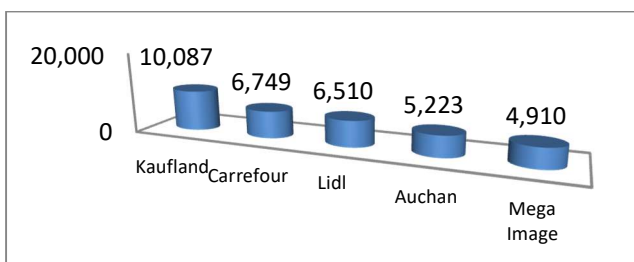


Fig. 8. Top of the retail companies after turnover in 2017.

## 8. CONCLUSIONS

Competition is intensifying in most areas of activity. Customers require an extensive range of products that need to be accessible and reachable in a timely manner. In the Internet age, the consumer expects and wants to be able to exchange goods in a simple and convenient manner.

Convinced of the importance of logistics services, many companies have recently sought to outsource them to meet the growing demands of their customers. They are convinced that it is beneficial to exonerate these activities because their preservation and realization under improper conditions becomes damaging.

Often retailers and even some manufacturers are looking for on-site value-added services to improve the efficiency of their operations to simplify processes, shorten the supply chain and reduce costs.

Logistics operations are correlated with the value chain that is a tool for identifying new ways to create an increasing value for the customer.

Considering that capacity is the amount of output that a system is able to achieve over a certain period of time, logistics has to make sure that the quantity of output fits the market in that period.

The actions in flow management, processes and capacity planning have to ensure that the value proposal responds to customer needs and maximizes product value. This is the basis that guarantees customer service.

Kaufland, which has an advanced logistics system, managed to grow in the analyzed period as follows:

- turnover increased in 2017 compared to 2015 by 9.95%;
- profit increased in 2017 compared to 2016 by 2.60% and compared to 2015 by 3.23%;
- the company is the first in the top 2017 after turnover;
- Turda warehouse is fully automated and is optimally organized in time and space;
- shop supplies are tailored to their needs and customers find a wide range of products; vegetables and fruits are always fresh to the satisfaction of buyers;
- in warehouses there are activities that increase the value of products and at the same time reverse logistics work;
- the company has invested in the logistics system to ensure a high customer service.

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