

EVALUATION OF THE EFFECTIVENESS OF THE LOGISTICS SYSTEM

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Currently, there is no universal methodology for measuring the efficiency of the logistics system, which takes into account the dynamics of the processes taking place there, as well as the whole variety of variables that determine the processes taking place there.

However, there is one universal parameter by which we can still determine the effectiveness of the logistics system as a whole. This parameter is the profit obtained when promoting logistics costs or material flow in the supply chain.

Every logistics operation is inevitably accompanied by costs. Each logistics operation is accompanied by costs incurred by specific elements of the logistics system.

In general, the evaluation of the efficiency of the logistics system can be done by comparing the profits and costs incurred in the supply chain. Of course, any business organization that implements the logistics principles of its activity management, first of all, tries to understand how the efficiency of the organization's activity will increase when applying the logistics approach.

The most general, key performance indicators of any logistics system include [1]:

- 1) General logistics costs;
- 2) Quality level of logistic service;
- 3) General activity of the business system;
- 4) Total duration of logistic processes in the system;
- 5) Quality of logistics operations and processes (level of logistics service).

Total logistics costs - this is the sum of the costs incurred during the management and implementation of all processes and operations related to the operation of the logistics system, without exception. General logistics costs can be classified by dividing them into the following groups [2]:

- 1) Operational logistics costs or logistics operations execution costs. These costs are often called operating costs. It is important to clearly distinguish between internal (when logistics operations are performed at the expense of the company's own resources) and external (when third-party logistics providers are involved) operating costs.
- 2) Costs or administrative costs related to logistics system management;
- 3) Costs related to realization of possible logistical risks.

If we talk about the classification of logistics costs by functional areas of logistics, the generally accepted classification is as follows [4]:

- 1) Transportation or shipping costs;
- 2) Storage costs;
- 3) Costs related to processing and processing of goods;
- 4) Inventory management costs;
- 5) Order management costs;
- 6) Costs related to the operation of logistics information systems, for example, integrated warehouse automation systems
- 7) As a separate group, it is necessary to separate the costs (and possibly profits) related to the formation and storage of raw materials and finished product stocks
- 8) Possible damages from the manifestation of logistics risks or insufficient quality of logistics services .

Distribution center logistics costs, involves calculating the cost of logistics distribution center, you can calculate the following ratios, and then these ratios with the year before, three years ago to examine the comparative cost of logistics distribution center of the actual situation, you can also compare with the same industry, other enterprises, or with other industry comparison [3].

unit sales of logistics cost ratio = logistics costs / sales × 100%

The higher this ratio the lower the price elasticity, from the chain over the years of data, to be generally aware of their movements, while, through the industry and trades with the same comparison, you can learn more about the logistics distribution center cost levels.

The ratio of price changes and trading conditions, by the impact of changes in a larger, and as assessment indicators also there is a certain deficiencies.

unit operating expenses logistics logistics cost rate = cost / (sales, general and administrative expenses +) × 100%

Logistics costs accounted for by operating expenses (sales, general and administrative expenses+) ratio can determine the proportion of the cost of the logistics chain, and this ratio is not the impact of changes in purchase costs, the value obtained relatively stable, thus suitable to do distribution center logistics chain rationalization of indicators.

the cost of the logistics functions of the logistics functions of the rate = cost / logistics total cost × 100%

This indicator can be clearly packaging costs, transportation costs, storage costs, handling, distribution processing fees, and information flow costs, logistics management fees on the cost of the logistics functions of the ratio of the total cost of logistics accounts.

Transport, distribution-related indicators [2]:

- loading rate = actual load / standard load × 100%
- vehicle starting rate = monthly total starting number / owner Number of units × 100%
- run the turnover rate = monthly total number of running / owner Number of units × 100%
- units of vehicles on monthly total mileage = mileage / owner Number of units
- unit of mileage on the actual road driving charge = 3 fee / monthly total mileage charges = repair + travel inside and outside the tire fee + fuel charges)
- unit shipments freight = freight charges / freight volume

The maintenance activity indicators:

- warehouse utilization = inventory area / total area × 100%
- Inventory turnover = annual amount of a database (number) / average inventory value (number) = the amount of years out of library (quantity) × 2 / (the end of the beginning inventory amount + the amount of stock).

The loading and unloading activities of indicators:

- unit workload = total man-hours workload / number of man-hours loading and unloading operations
- (loading and unloading operations the number of man-hours = working number × operating time)
- handling efficiency = standard number of man-hours loading and unloading / loading and unloading the actual number of man-hours
- loading and unloading equipment, loading and unloading equipment, the operating rate = actual starting time / loading and unloading equipment standard starting time of
- unit workload of handling equipment repair = repair / total workload of
- unit workload uninstall fee = handling fees / total workload of

Information activities related to logistics indicators:

- logistics information processing rate = logistics information processing number (the number of sheets of summonses, etc.) / standard logistics information processing number (the number of sheets of summonses, etc.).

Result. The most common, typical indicators for evaluating the effectiveness of logistics operations and business processes include indicators characterizing the strength, productivity, and costs of the enterprise's logistics system.

Literature.

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