

# The expediency of using evaluation indicators of logistics processes effectiveness in the system logistics activities controlling

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**Abstract** – The importance and necessity of using logistics activity controlling for the purpose of increasing enterprise operation efficiency is substantiated. The need of formation and application evaluation indicators of logistics activity performance of the enterprise is argued, which create an important information data base of the enterprise necessary for effective planning, control and regulation of all logistics processes of the enterprise. The emphasis is on the impact of logistics services quality on the competitiveness and image of the enterprise, and, as result, on profitability and prospects for further development and improvement.

**Keywords** – image, competitiveness, logistics activity controlling of the enterprise, evaluation indicators of logistics activity performance, prospects for further development, return and complaint.

## I. Introduction

Recent studies show that most of the customer's returns and complaints arise from the ineffective performance of the logistics functions of the company. An example is the customers dissatisfaction with long-term or late delivery of products – logistic functions of the company are responsible for timely delivery of goods; the return of products because of its delivery was in improper quality, that is, beaten, damaged or spoiled – it is to the sphere of logistics processes that the organization of delivery of products belongs not only on time but also with the preservation of consumer qualities of products. That is, the logistics department organizes the process of packaging and labeling products, chooses the appropriate type of transport, for example, cars with refrigerators, manages the processes of warehousing goods in the warehouse and moving from warehouse to transport, from transport to the consumer, etc.

Its subsequent image and competitiveness depend on the reaction of the company to the return and claim. The timely replacement of spoiled products or the timely delivery of quality products at a minimal cost can significantly improve the company's image, while indifferent or long-term responses to customer complaints can not only seriously damage the reputation and loose the client, but also launch a negative ad through the mouthpiece an insulted client.

Thus, there is a significant need for effective logistics processes that will allow them to work for a positive image and increase profits.

## II. Research Result

Logistics activity controlling is a part of the enterprise management system aimed at ensuring the achievement of the logistic goals of the enterprise and the implementation of logistic functions, including optimization of the general level of stocks and the level of customer service, management of procurement procedures, purchases, transportation, production procedures, pricing, physical distribution, etc. in order to ensure the effective operation of the enterprise.

Based on the essence of logistics activities controlling, it can be argued that this is an auxiliary system that takes an important part in planning, controlling and regulating the logistics of the enterprise, which manifests itself in increasing the efficiency of the logistics processes of the enterprise.

However, it is logical that the planning stages, as well as the stage of control and regulation, are impossible without the formation of a list of controlled indicators, and, accordingly, the establishment of a methodology for their calculation.

On the basis of the research carried out in the study of the functions, goals and objectives of controlling and logistics, a list and methodology for calculating the indicators of evaluation the logistics activities performance of the enterprise is given in Table 1.

TABLE 1

THE LIST AND METHODOLOGY FOR CALCULATING THE INDICATORS OF EVALUATION THE LOGISTICS ACTIVITIES PERFORMANCE

Indicator	Methodology for calculating
Purchase cost in 1 order	$= \frac{\text{Purchase Costs}}{\text{Number of orders}}$
Number of operations per 1 employee	$= \frac{\text{Number of operations in warehouse}}{\text{Number of employees}}$
Share defects transactions	$= \frac{\text{Number of mistakes} * 100\%}{\text{Number of performed operations}}$
Fraction warehouse costs in the cost of production	$= \frac{\text{Warehousing costs} * 100\%}{\text{Cost of production}}$
Transportation costs for 1 product	$= \frac{\text{Transport costs}}{\text{Volume of transported products}}$
Transport productivity	$= \frac{\text{Number of ton spent by transport}}{\text{Number of transport units}}$
Average transport costs per 1 t	$= \frac{\text{Transportation costs}}{\text{Transportation volumes}}$
Transport utilization rate	$= \frac{\text{Number of worked hours}}{\text{Maximum number of working hours}}$
The share of transport costs in the cost of production	$= \frac{\text{Transport costs} * 100\%}{\text{Cost of production}}$

Indicator	Methodology for calculating
Cost of the order for 1 item	$= \frac{\text{Cost of the order}}{\text{Quantity of products}}$
Share cost of the order in the cost of production	$= \frac{\text{Cost of the order} * 100\%}{\text{Cost of production}}$
Volume of goods in warehouse	$= \text{Admission to the warehouse} - \text{Shipment from the warehouse}$
Fraction returns	$= \frac{\text{Number of returned orders} * 100\%}{\text{Total number of executed orders}}$
The share of transport costs in sales	$= \frac{\text{Transportation costs in sales} * 100\%}{\text{Total sales costs}}$
The volume of logistics costs per 1 employee	$= \frac{\text{Total logistics costs}}{\text{Number of employees}}$

Source: own author's development.

Important when using the proposed indicators is not only the method of their calculation, but also a brief description, this makes it possible to simplify the process of understanding and perceiving the proposed indicators which is given in Table 2.

TABLE 2  
CHARACTERISTIC OF THE INDICATORS OF ASSESSING THE LOGISTICS ACTIVITIES EFFECTIVENESS

Indicator	Characteristic
Purchase cost in 1 order	Shows the cost of purchasing costs for 1 order.
Number of operations per 1 employee	Shows the amount of warehousing operations per employee. Assists in determining the required number of warehouse personnel.
Share defects transactions	Shows the level of operations performance.
Fraction warehouse costs in the cost of production	Shows the share of warehouse costs in the cost of production. Assists in deciding on the amount of order and the amount of storage in warehouse.
Transportation costs for 1 product	Shows the share of transport costs for 1 product during its transportation. Assists in making a decision on the volume of the order.
Transport productivity	Shows the amount of worked hours per unit of transport. Helps in determining the traffic load and the required amount of transport.
Average transport costs per 1 t	Shows the proportion of transport costs per 1 ton carried by the available transport.

Indicator	Characteristic
Transport utilization rate	Shows the proportion of traffic load.
The share of transport costs in the cost of production	Shows the proportion of transport costs in the cost of production. Helps in making a decision on balancing logistics costs.
Cost of the order for 1 item	Shows how much expense does 1 order. Assists in determining the volume of the order.
Share cost of the order in the cost of production	Shows the share of cost per order in the total cost of production.
Volume of goods in warehouse	Shows balance on stock. Helps to control the work of the warehouse.
Fraction returns	Shows the level of customer dissatisfaction with the execution of orders. Allows you to decide on occasional and after-sales service.
The share of transport costs in sales	Shows what proportion of transport costs accounted for the total cost of sales of products.
The volume of logistics costs per 1 employee	Shows the amount of logistics costs, which account for one employee.

Source: own author's development.

### Conclusion

In this article the importance of the logistics of the enterprise as a system of influence on its competitiveness and image through the effective organization of logistic functions and timely reaction to the return and customer complaints was established. The need to form an indicative list of indicators of evaluation the effectiveness of logistic processes and to determine the methodology for their calculation was identified.

The proposed list of indicators allows not only to evaluate the results of logistics operations, but also provides the opportunity to calculate the targets, which is an effective support for the logistic plans built, which further simplifies the process of control, the search for "bottlenecks" or disadvantages in planning and regulation.

Thus, the application of the proposed list of logistic indicators and the methodology for their calculation allows not only assessing the effectiveness of logistics activities of the enterprise, but effectively affecting the planning, control and regulation of logistics plans, which ultimately affects the competitiveness of enterprises, profitability and forms the prospects for further development and improvement.