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# CONTROLLING LOGISTYCZNY JAKO NARZĘDZIE USPRAWNIAJĄCE ZARZĄDZANIE DZIAŁALNOŚCIĄ SPRZEDAŻOWĄ PRZEDSIĘBIORSTW

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**Adnotacja.** Procesy logistyczne można modelować, analizować, wizualizować i optymalizować za pomocą specjalnego oprogramowania do modelowania. Minimalizacja wykorzystania zasobów jest powszechną motywacją w logistyce do importu i eksportu.

Célem tego badania jest identyfikacja miejsca kontroli logistycznej w systemie zarządzania wydajnością przedsiębiorstw. W pracy wykorzystano takie metody badawcze, jak analiza, synteza, opis, analiza bibliograficzna i porównanie.

Globalizacja logistyki jest integralną częścią takich procesów, które zachodzą we wszystkich obszarach światowej gospodarki. Proces ten nie pozostawił bez uwagi przedsiębiorstwa, ale wejście na arenę międzynarodową z przestarzałymi metodami, pomysłami i sposobami realizacji operacji logistycznych oznacza skazanie się na niepowodzenie. Dlatego konieczne jest stosowanie nowoczesnych technologii i innowacji, do których uciekają się kraje rozwinięte, które aktywnie wykorzystują osiągnięcia rewolucji naukowej i technologicznej, która opiera się na technologii komputerowej. Właściwa struktura i wykorzystanie systemów logistycznych opierające się na wdrażaniu zintegrowanej działalności logistycznej międzynarodowych standardów jest sukcesem na rynkach międzynarodowych i integracja z nowoczesną strukturą zagranicznych powiązań gospodarczych.

Słowa kluczowe: logistyka, controlling logistyczny, działalność sprzedażowa, zarządzanie, koszty.

# LOGISTICS CONTROL AS A TOOL FOR IMPROVING THE MANAGEMENT OF SALES ACTIVITIES OF ENTERPRISES

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**Abstract.** Logistic processes can be modeled, analyzed, visualized and optimized using special modeling software. Minimizing resource use is a common motivation in logistics for imports and exports.

The purpose of this study is to identify the place of logistics controlling in the management system of enterprise efficiency. The research methods such as analysis, synthesis, description, bibliographic analysis and comparison are used in the work. Globalization of logistics is an integral part of such processes taking place in all spheres of the world economy. This process has not left the company unattended, but to enter the international arena with outdated methods, ideas and ways of conducting logistics operations — means dooming yourself to failure. Therefore, it is necessary to use modern technologies and innovations, which are resorted to by developed countries that actively use the achievements of the scientific and technological revolution, which is based on computer technology. The correct structure and use of logistics systems, based on the introduction of integrated logistics activities of international standards — is success in international markets and integration into the modern structure of foreign economic relations.

Key words: logistics, logistics controlling, sales activities, management, costs.

# ЛОГІСТИЧНИЙ КОНТРОЛІНГ ЯК ІНСТРУМЕНТ УДОСКОНАЛЕННЯ УПРАВЛІННЯ ЗБУТОВОЮ ДІЯЛЬНІСТЮ ПІДПРИЄМСТВ

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**Анотація.** Логістичны процеси можна моделювати, аналізувати, візуалізувати та оптимізувати за допомогою спеціального програмного забезпечення для моделювання. Мінімізація використання ресурсів  $\epsilon$  поширеною мотивацією в логістиці для імпорту та експорту.

Метою даного дослідження  $\epsilon$  виявлення місця логістичного контролінгу в системі управління ефективністю діяльності підприємств.

У роботі використані такі методи дослідження, як аналіз, синтез, опис, бібліографічний аналіз та порівняння. Глобалізація логістики є невід'ємною частиною подібних процесів, які відбуваються в усіх сферах світової економіки. Цей процес не залишив без уваги підприємства, але вийти на міжнародну арену із застарілими методами, представленнями та способами здійснення логістичних операцій, — значить приректи себе на провал. Тому необхідно використовувати сучасні технології та інновації, до яких вдаються розвинені країни, які активно використовують досягнення науково-технічної революції, в основі яких лежить комп'ютерна техніка. Правильна структура та використання логістичних систем, що базується на запровадженні інтегрованої логістичної діяльності міжнародних стандартів, — це успіх на міжнародних ринках та інтеграція в сучасну структуру зовнішньоекономічних зв'язків.

Ключові слова: логістика, логістичний контролінг, збутова діяльність, управління, витрати.

#### 1. Introduction

Today, Ukrainian companies need to increase efficiency through internal reserves and improve the company's image. Thus, business leaders are increasingly paying attention to logistics. Logistics controlling is used in the logistics strategy to identify bottlenecks in the company's logistics to eliminate them and achieve positive business results. Logistics controlling combines accounting, planning and management with information support of logistics business processes into a single system.

#### 1.1 Literature Review

According to American logistics experts Stock, Lambert (2001), Smith (2007), Simchi-Levi, Chen, Bramel (1998), logistics controlling in business organizations is an isolated economic activity in a company that combines accounting, planning, regulation and information support of logistics business processes in a single system in order to identify the causes of reduced logistics efficiency and their elimination and their consequences. Most foreign researchers agree on the distribution of both strategic and operational controlling in logistics (Coyle, Bardi, Langley, 2002; Luther, Jones, Sax, 2009; Śliwczyński, 2011).

The purpose of strategic controlling is to evaluate and adjust logistics decisions, evaluate the effectiveness of logistics strategy, develop alternative logistics strategies based on market conditions etc. Operational controlling is focused on achieving and maintaining the planned level of logistics business processes efficiency, on control of solving current tasks within the logistics strategy, and on operational regulatory impact on the course of work. The procedure for developing and deploying a logistics control system can be represented as a number of such specific steps (Christopher, 2011; Stock, Lambert, 2001):

- 1. Defining and formulating the goals of logistics activities and the company.
- 2. Reflecting of the logistics strategy goals in the system of key performance indicators (KPI) of logistics business processes.
- 3. Development of a system of differentiated management accounting, methods of logistics calculation and evaluation of KPI.
  - 4. Regular monitoring (measurement) of deviations of actual values from the planned logistic KPIs (normative).
  - 5. Making management decisions to minimize deviations of actual values from the planned logistics indicators.

At the enterprise, the ultimate goal of logistics controlling is to achieve the main directions of logistics strategy (Stock, Lambert, 2001; Ballou, 2004). Control of logistics activities leads to the use of methods of differential cost accounting, which helps to calculate the costs and results of logistics activities on different bases, such as product, customer, market, etc. In the process of control, information is collected and analyzed using corporate information systems and management accounting systems. The logistics controlling system evaluates the efficiency and effectiveness of business processes and decisions; it determines the contribution of each employee to the end result. Thus, the complexity of developing a logistics controlling system is due to the intention to integrate financial and non-financial indicators. Today, there is probably only one tool, i.e., the Balanced Scorecard (BSC) for this purpose, as evidenced by numerous publications of such leading scientists in the field of logistics and SCM as Brewer, Speh (2000), Chopra, Meindl (2004), Niven (2005), Parmenter (2010), Smith D., Smith C. (2013). BSC is one of the most effective ways to evaluate the activities of various divisions of the company, including the logistics department. An important feature of a balanced scorecard is the consistency between KPIs, the company's strategic goals and actions to achieve them. The BSC complements the existing system of financial indicators, which generally assess events that have already taken place through forward-looking assessments. The advantage of a balanced scorecard is taking into account the company's four activities, i.e., finance, customers, internal activities (development of internal business processes), training and education (Smith, 2007).

Non-financial KPIs assess the success of the company's logistics in the long run. BSC-based logistics controlling aims to facilitate the decision-making process, which means detailed identification and analysis of causal links between the company's logistics results. According to scientific data, the application of the SCOR model in the supply chain for the above purposes is a good practice (Bolstorff, 2012; Chopra, Meindl, 2004; Śliwczyński, 2010; Yang, 2012).

Thus, the purpose of logistics controlling is to ensure a sustainable contribution to the successful operation of the company and support the implementation of logistics projects.

Logistics control contributes to the constant receipt of the target value of logistics indicators in terms of quality of logistics services, costs, lead times, and inventory levels. The positive effect of the implementation of logistics controlling is the coordinated actions of all participants in the supply chain to achieve efficiency and effectiveness of logistics business processes. In addition, companies want to be aware of key trends and developments in the field of logistics, in particular, logistics controlling of the company in order to achieve the highest position in the market.

1.2 Purpose and Objectives

The purpose of this research is to identify the place of logistics controlling in the management system of enterprise efficiency. This goal involves solving a number of the following objectives:

- 1) to research the essence of logistics controlling;
- 2) to research methods of reducing logistics costs.
- 1.3 Research Methodology

The research methods such as analysis, synthesis, description, literature review and comparison are used in the work.

# 2. The main research material

2.1 The Concept of Logistics and Logistics Control

Logistics is the management of the flow of goods between the point of origin and the point of consumption in order to meet certain requirements, such as customers or corporations. Resources managed in logistics can include physical objects such as food, materials, animals, equipment and liquids, as well as abstract elements such as time, information, particles and energy. Logistics of physical items usually includes the integration of information flows, materials processing, production, packaging, inventory, transportation, warehousing and security. Components of logistics can be modeled, analyzed, visualized and optimized using special modeling software. Minimizing resource use is a common motivation in logistics for imports and exports.

Finance and logistics are the two most common areas of controlling. Thus, we can conclude that they are the most important functional areas in most of the surveyed enterprises. The implementation of logistics controlling is associated with the separation of logistics processes, as indicated by the result of the independence test. It means that these enterprises control logistics processes.

The results of empirical research confirm that there are tools designed to control logistics processes at enterprises with separate processes. These are indicators-oriented processes focused on management reporting, budgeting and cost control of logistics processes. Research departments measure, monitor and evaluate the effectiveness of logistics processes.

Controlling is an important element in supporting business management. Unfortunately, this tool is not used in all companies. It combines all areas related to decision-making at the strategic and operational levels. It also integrates individual areas of business operations, focusing on the right flow of information. There are many opinions about it. Its understanding and definition are different both in the literature and in practice. Despite the large number of publications on this topic and the constant interest in the topic of controlling by practitioners and theorists, issues in the field of controlling still remain.

Global economic development and changes in the functioning of products for processing, dynamic changes in the approach to process management, a variety of diversified products, increasing customer service requirements, shortening product life cycle have the functions of managing productivity and efficiency flow of ingredients, finished products and information. Such expectations can be met through organized and efficiently managed logistics, taking into account the requirements for manufacturing companies in a variety of unpredictable services, the role of which does not include functionality. Therefore, logistics should be evaluated in terms of processes.

We think that the above-mentioned definition of logistics is not unified. However, it may be generally accepted in modern conditions. For example, the Logistics Management Board (now renamed the Supply Chain Management Professionals) defined logistics as the process of planning, implementing and controlling the efficient, effective flow and storage of goods, services and related information in terms of customer requirements which includes incoming, outgoing, internal and external movement and return of materials for environmental purposes.

Thus, the concept of logistics focuses on the flow of goods. The word was translated into Chinese using this meaning. It focuses on product processing activities, i.e., storage, transportation, distribution, packaging, and processing. Although business logistics includes many activities, traditional management operations focus on logistics, transportation and inventory planning.

Many definitions of logistics controlling indicate problems in its characteristics. Heterogeneity of approaches is the result of the universal definition lack of both logistics and controlling. Each author highlights different important aspects. According to literature review, a common feature of the analyzed definitions is support for decision-making for people and a tool for improving processes.

An original definition of logistics controlling was adopted. It is understood as a tool to support management in the implementation of logistics processes, including projects from raw materials to technological processes in the field of production logistics to delivery of finished products to end customer. This tool should be supported by relevant information, material flows and financial flows.

There are lots of companies that base their activities on logistics management and use logistics controlling to control the costs of transportation, storage, shipment, production planning, waste management, and data processing. Logistics controlling is a comprehensive tool for assessing the management system of the company. The positive financial results achieved by the company are the result of implemented processes that increase costs and revenues.

It should also be noted that the implementation of controlling is closely related to the orientation of management systems on the processes implemented at the enterprise. Therefore, process control is becoming an important factor in business management.

There are many definitions of process controlling in the scientific literature. It is a tool that supports process management, allowing them to be identified, measured, tracked and improved, mainly using cost accounting. In other words, this tool is called a system that skillfully supports those responsible for planning, monitoring, providing information, and coordinating processes. It can also be described as a tool to improve the management of business processes by implementing their planning, management, and control. Its main goal is to optimize the course of economic processes in terms of specific end results. Particular attention should be paid to economic processes that determine the competitive advantage of the enterprise.

It should also be noted that the implementation of process controlling is closely related to the progressive orientation of management systems to the processes implemented in the enterprise. It was assumed that the task of process controlling is to inform managers about the processes through their planning, evaluation, control, and improvement. Various management tools should be used in process control, including cost management, activity-based budgeting, business process restructuring, and a strategic performance system.

Today, globalization is the main engine of the world economy. It is an important factor determining the production and marketing of products. Today, the international community views globalization as a natural historical process. The transport and logistics system are not left out due to globalization and the increasing internationalization of the world economy. The key parameters of globalization of logistics are, first, economic growth and development of international markets; second, global competition and regionalization; third, the development of logistics systems infrastructure

Now the issue of optimization of activity in modern conditions of economic development is acute for enterprises. The principles of market economy are especially acute because competition is growing. It is necessary to pay special attention to the system, which allows to increase the effective management of financial flows, which will lead to the optimization of all economic activities. When foreign capital comes to the country, it increases competition. In many areas, the reserves for increasing competitiveness are almost exhausted. However, logistics is looking for new competitive solutions. It is necessary to find more time to optimize economic activity, which is associated with the creation of efficient logistics systems. This problem can be described as the creation of competitive advantages by reducing logistics costs and improving the quality of service through the creation of integrated logistics systems. Any successful company seeks to enter the international market, especially in a globalized world economy characterized by a single economic space and the creation of a common market for the production and distribution of money. Globalization of logistics is an integral part of the processes taking place in all spheres of the world economy. Entering the international arena with outdated methods, ideas and ways of carrying out logistics operations means dooming yourself to failure. Therefore, it is necessary to apply modern technologies and innovations used by developed countries that actively utilize the achievements of the scientific and technological revolution based on computer technology. The correct structure and application of logistics systems, based on the introduction of integrated logistics activities of international standards is success in international markets and integration into the modern structure of foreign economic relations. Logistics plays an important role in economic activity in a market economy as a factor in the formation of key competencies. The issue of creating strong macroeconomic demand for the development of international logistics infrastructure is also on the government's agenda. It is one of the main basic factors influencing the dynamic and stable growth of the national economy and strengthening its position in the international market.

The formation of logistics in addition to the desire of companies to reduce time and money costs associated with merchandising, identified the following factors:

- 1. Complicating the systems of market relations and increasing the requirements for the quality of the distribution process.
- 2. Creation of flexible production systems. The special impact of the transition from the seller's market to the buyer's market was reflected in the development of logistics. If the development of sales policy preceded the release of products in the pre-transition stage, the conditions of market oversaturation have become mandatory for the formation of the production program depending on the volume and structure of market demand.

Land unsettled relations are one of the fundamental problems in the development of transport infrastructure. There are no reservations about the areas under construction, road infrastructure facilities. It is necessary to develop a special federal law on the reservation of territories for the construction and reconstruction of road, rail, water, air and other modes of transport, as well as a law on the procedure for transferring the law of territories from one group to another.

### 2.2 Optimization of Logistics Costs

Improving the quality of life is considered to be one of the main tasks of the logistics infrastructure. The study considers the relevant concepts of transport safety and relevant services in the implemented and planned federal programs. The implementation of transport safety should be based on an appropriate legal basis.

Optimization of transport costs is one of the main tasks associated with reducing costs at the enterprise in any industry, especially in retail. Retail trade is the movement of goods from the manufacturer (supplier) to the end customer, so the logistics costs are certainly significant, and the optimization of logistics processes becomes a key condition in the fight to reduce the cost of goods on the shelf.

Business process optimization begins with breaking them down into components. Then we study the cost of sales, and evaluate the impact of these costs on the end result.

Additional incentives have been introduced to speed up the detour of drivers. A fixed tariff has been set for each delivery made. Thus, they can either waive the extra part of the order, or provide additional transport. Warehouse employees no longer spend time dismantling and placing an unnecessary order.

The main purpose of the logistics of an industrial company is to ensure uninterrupted production with minimal costs. The solution of this problem depends on two factors, i.e., the sales plan and production load. The difference between the planned and actual indicators of procurement (supply) should not exceed 5%. It is necessary to competently organize the process of delivery of components to achieve this.

Savings by attracting third-party companies. These can be both truck owners who work without intermediaries and a freight forwarding company that organizes transport with third parties. Freight forwarding companies are more often used because they have a large base of proven carriers and can find the right option in a short time. There are also specialized Internet resources related to freight. Here you can find the right carrier very quickly.

It is better to use leased vehicles to deliver large volumes of cargo, as this requires hiring more carriers. The Department of Transport Logistics is responsible for the selection of carriers. It organizes the delivery of accessories from suppliers. Optimal transport load helps to reduce costs. The Transport Logistics Department coordinates its work with the Logistics Sales Department to ensure maximum transport capacity.

The third way to reduce costs is to consolidate cargo. As a rule, this is planned when the composition of the procurement is determined. The next way is to defer payment for delivery from 1 to 2 months. Permanent partners usually make concessions. This tool is needed by companies that manufacture products for customers mainly on a postpaid basis.

The last way is to optimize routes. As a rule, the routes on which incoming goods are delivered are subject to change due to the situation at customs and the tariff policy of customs warehouses.

Analyze the cost of the services of a logistics company before choosing it. The starting price of freight may be quite attractive, but the payment of a few days of storage, an additional service that was not previously mentioned, and another inspection at the terminal, etc. will be added to it as compensation. Such companies are not aimed at large volumes and are focused not on building a positive reputation, but on the hunt for big money. You can contact a specialized logistics company with a range of services designed to meet the specifics of the cargo of a particular customer. In such companies, the cost of transportation is more expensive than that of a universal carrier, but the customer will be at ease trusting the cargo to a partner who has experience with cargo of a certain category. In the case of a universal carrier, as a rule, there is a set of associated and unaccounted costs, which becomes known only at the end of transportation. However, it should be remembered that the offer of quality transportation at a very low price should arouse suspicion. In this case, the freight forwarder may reimburse the costs either by increasing the volume and attracting low-skilled personnel or by carrying out illegal activities.

There are three types of performance indicators, i.e., Key Result Indicators (KRI), Performance Indicators (PIs), and Key Performance Indicators (KPIs).

Key Result Indicators (KRI) tell the user how he acted in his activity. They include, for example, customer satisfaction indicators, net income before tax and employee satisfaction, return on invested capital.

These are typical information indicators for the board of directors, which is not engaged in day-to-day management. These indicators usually cover a longer period of time than key performance indicators; they are reviewed monthly or quarterly but not daily or weekly.

Performance indicators (PIs) tell the user what to do. KRI and KPIs have a number of indicators that complement KPIs and are used in an organization's scorecard. Examples of these indicators are the profitability of the main 10% of customers, net profit of non-key production lines, the percentage increase in sales of the main 10% of customers, the number of employees participating in the improvement program.

Key Performance Indicators (KPIs) tell you what you need to do to increase productivity significantly. KPIs are a set of performance-based benchmarks that are most important to current and future business success.

The effective use of these indicators in certain activities, such as procurement, material flow and transportation, warehousing, distribution, production planning and management, depends on several key conditions. This is the ease of use of indicators in a particular business, the relationship between utility and costs generated by the indicator, and the ability of indicators to reflect this area. Indicators should also indicate the exact purpose of their use in the enterprise, and responsible persons in the organization who have clear competencies. The objectives of the reports are to provide comprehensive information to users (managers) on logistics costs and performance, logistics indicators that are monitored, in the required amount, structure and time. Reports are usually standardized.

The level of the company's information system used is a separate topic related to this issue. The company's information system is a data platform from which the necessary information for reporting is obtained. Today, the so-called analytical management modules are available at enterprises, where the most frequently used reports are already programmed. These programs are reliable but not available to many small businesses. However, it does not mean that business reporting is compromised.

Today, electronic versions of the results are one of the best forms of reporting, they contain structured data and can be easily processed and evaluated as needed using a summary table in MS Excel. Users of the reports can work with the data as needed.

The concept of controlling is based on constant comparison of actual logistics costs with the planned costs of the enterprise, identifying deviations and causes of these deviations, monitoring the impact of deviations on the goal achievement, measured by economic indicators. Controlling is based on defining the goals that the company wants to achieve, i.e., to reduce logistics costs.

The advantage for a company using a control approach in logistics cost management is to reduce overhead costs. They affect the price of products and demand, meet customer requirements increasing profits from sales, reducing overall costs, and increasing profit. Improving the system of information transfer at certain levels of management, providing feedback in synergy with the customer, eliminating inefficient activities in the chain of logistics processes are other aspects of this approach. The concept of controlling management implies the presence of highly qualified management of the company, which aims to constantly increase the value of the business. The speed of implementation of individual stages of logistics controlling depends on the openness, consistency, and determination of senior management.

Information flows are high quality, come quickly and in optimal amounts in today's highly competitive conditions. The place of controlling in modern society is indispensable. Controlling can successfully manage critical business processes and enable the company to build a concept of continuous improvement to reduce logistics costs.

#### **Conclusions**

Marketing logistics is the planning, operational management and control of the physical flow of materials and finished products. It starts with the location of power flows, accessories, etc. and ends with the adjustment of final products to consumers to better meet their needs. Marketing logistics is based on a combination of marketing and logistics ideas. The problem of production load range formed by the portfolio of marketing services, technology determines the optimal movement of resources and products according to standard requirements for packaging, product quality, identification of material waste, human resources, equipment, and tools.

Modern information technologies, homogeneous product coding, satellite tracking systems for transportation, electronic data exchange and money transfer play a significant role in marketing logistics. The cost of marketing logistics is up to 30-40% of the cost of finished products.

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