

Lecture 1. Essence and principles of logistics

The main objective of lecture is to consider the essence, functions and principles of logistics

1. The concept and essence of logistics
2. Functions and tasks of logistics
3. Basic principles of logistics
4. Factors and trends in the development of logistics

1. The concept and essence of logistics

Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The resources managed in logistics can include physical items such as food, materials, animals, equipment, and liquids; as well as intangible items, such as time and information. The logistics of physical items usually involves the integration of information flow, materials handling, production, packaging, inventory, transportation, warehousing, and often security.

In military science, logistics is concerned with maintaining army supply lines while disrupting those of the enemy, since an armed force without resources and transportation is defenseless. Military logistics was already practiced in the ancient world and as modern military have a significant need for logistics solutions, advanced implementations have been developed. In military logistics, logistics officers manage how and when to move resources to the places they are needed.

Logistics management is the part of supply chain management that plans, implements, and controls the efficient, effective forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements. The complexity of logistics can be modeled, analyzed, visualized, and optimized by dedicated simulation software. The minimization of the use of resources is a common motivation in all logistics fields. A professional working in the field of logistics management is called a logistician.

2. Functions and tasks of logistics

There are two types of logistics functions: operational and coordination. Operational functions associated with the management of the movement of wealth in the field of supply of production and distribution.

In the field of supply, this is the management of the movement of raw materials, materials, and stocks of finished products from the supplier to the manufacturing enterprise, warehouse, or trading warehouse. At the production level, logistics is a management that includes control of the movement of a semi-finished product through all stages of production, as well as the movement of goods to warehouses and markets. Distribution management covers the organization of the flow of final products from producer to consumer. The functions of logistical coordination include: identifying and analyzing the material

needs of various parts of production, analyzing the area of the markets in which the organization operates, forecasting the development of potential markets, processing the data of clientele needs. The essence of these functions is to coordinate supply and demand. Based on the relevant information, logistics deals with the matching of the demands made by the market situation and the proposals developed by the organization. From the coordination function of logistics, another direction was formed - operational planning. On the basis of the demand forecast, a transportation schedule and a procedure for managing inventory of finished products are developed, as a result production planning, development of programs for the supply of raw materials and components are determined. The following logistics functions are distinguished from the fundamental positions: system-forming, integrating, regulating, resulting. Systemic logistics is a system of efficient technologies for ensuring resource management.

The integrating function is to provide logistics of synchronized sales, storage and delivery processes with market-related means of production and the provision of mediation services to consumers. The regulatory function is to implement the management of material, information and financial flows to reduce costs.

The resulting function involves the delivery of goods in the right quantity at a certain time and place with the necessary quality at the lowest possible cost. The criterion for determining the effectiveness of the implementation of logical functions is to achieve the ultimate goal of logistics activities.

The tasks facing logistics can be divided into general, global and private. Achieving maximum effect with minimum cost is the main global task of logistics. Modeling of logistic systems and factors of their functioning are also referred to global tasks.

3. Factors and trends in the development of logistics

In industrialized countries, interest in the problems of the development of logistics is associated with reasons of an economic nature. The development of logistics was predetermined by the following factors: an increase in the requirements for the qualitative characteristics of the process, the transition from the seller's market to the buyers. This transition was accompanied by significant changes in product distribution systems and production strategies. If earlier the sales system was adjusted to production, then in the conditions of oversaturation of the market, production programs are formed depending on the volumes and units of market demand. In the conditions of intense competition, adapting to the interests of clients requires a response from these manufacturers to these requests, which causes an improvement in the quality of service, minimization of order execution time and strict adherence to the agreed delivery schedule. The factors of time, together with the price and quality of products have become decisive for the successful functioning of the enterprise. It is necessary to note the complication of the problem of implementation with a parallel interest in the quality of the distribution sphere.

4. Basic principles of logistics

There are several basic principles that reflect a logistic approach to solving problems in production and business activities.

1. The principle of synergy. This principle defines an integrated and systematic approach to achieving certain goals. Given the interaction of the mechanism of production and circulation, on the basis of this principle it is possible to achieve a better result in the whole structure by coordinating actions in all interrelated processes than by improving the functioning of individual elements of the logistics system.

2. The principle of dynamism. Logistics systems should reflect the essence of the processes covered by them and should not be frozen organizational-economic entities.

The essence of the logistic process lies in the progressive dynamics, which is defined in development, the desire to improve. Dynamism determines supply and sales operations, means and objects of labor, goals and objectives, expressed at the next stage of development.

3. The principle of completeness. This principle means that systems in logistics should be built as a community of several or many elements that are closely interconnected. Within the framework of the logistic system, continuous autonomous functioning of any individual elements is not allowed. Emergency and non-standard situations are the exception.

4. The principle of initiative. Logistics systems built on this principle imply the manifestation by the resulting structures of the ability of a definitive reaction to probable events, along with the ability to create and regulate subjective conditions that positively influence business processes.

5. The principle of expediency. It focuses on attracting the potential that plays a positive role in achieving the goals set. In the choice of organizational, technical and technological structures, selectivity manifests itself, expressed by a desire to reduce costs or time to move in conditions of the possibility of solving certain tasks in several ways.

Questions for self-control:

1. Define and reveal the essence of logistics.
2. Expand the functions and tasks of logistics.
3. Which factors does influence on the development of logistics?
4. Reveal the basic principles of logistics.