

THE PLACE AND ROLE OF TRANSPORT IN INCREASING SUPPLY CHAIN MANAGEMENT EFFICIENCY

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The article examines the economic essence of the supply chain and reveals its classification features. The characteristics of the supply chain management process are given and the basic principles of interaction between their participants are determined. The leading role of transport in improving the quality of customer service followed by an increase in the efficiency of supply chain management is noted.

The rapid development of the market, tougher competition and the requirement to improve the quality of consumer service pose new challenges to business entities. To meet these challenges, remain competitive and leverage their strengths, today's business organizations need to optimize all value creation processes in the supply chain – from raw material supply to after-sales service to the end customer. To do this, the leadership of many organizations is increasingly turning to supply chain management solutions.

To identify the specifics of supply chain management, you should initially find out what is meant by the term "supply chain" and on what grounds the supply chains are classified.

The supply chain should be understood as three or more separate units (organizations or individuals) directly involved in the incoming and outgoing flows of goods, services, finance and information from the source to the consumer [1, p. 20].

Supply chains are classified according to the following criteria:

1) by the complexity of the structure and the number of partners involved: simple supply chains, complex supply chains, supply chains;

2) according to the development strategy: regular economical supply and quick response to market demands;

3) by the type of cargo: standard, identical and varied; piece, bulk, liquid, gaseous;

4) by the number of names of goods: multi-item and homogeneous (mass), with a small number of items;

5) in terms of traffic volumes: small cargo flows up to 100 thousand tons / year; average freight traffic 100-500 thousand tons / year; large cargo flows of 500-1000 thousand tons / year; massive cargo flows over 1000 thousand tons / year;

6) according to the stability of cargo flows: constant, regular, pulsating, variable;

7) by the size of transport consignments: small shipments, wagon shipments, container shipments, whole vehicles, group shipments, route transportation;

8) by the nature of transportation and the number of modes of transport used: direct, unimodal, mixed, multimodal, intermodal, domestic, international, transit;

9) by the prevailing mode of transport: rail, road, sea;

10) according to the technology and conditions of transportation: in bulk, in shipping containers, in separate piece pieces, in transport packages on pallets, in containers (medium-tonnage, large-tonnage, specialized, isothermal, thermoses, tank containers);

11) in terms of delivery time of goods and forecasting capabilities: long delivery time, short delivery time; easily predictable, difficult to predict [2, p.13].

Supply chain management is the interaction of several isolated units (organizations or individuals) directly involved in the incoming and outgoing flows of goods, services, finance and information from the source to the consumer.

Supply chain management is the most important component of the activities of top managers of many market leaders. As practice shows, 60–80% of personal resources, the volume of costs and a significant part of the success of companies are determined by how good the interaction of counterparties in the supply chains is.

Many businesses, whether in a variety of activities or involved in multiple parallel supply chains, face the challenge of intelligent horizontal integrating across the customer value chain. Horizontal integration of supply chain links is applicable where synergy from linking processes yields better results than isolated activities within functional areas of the business. Business entities that already at the stage of product development and selection of a market for its implementation provide for the subsequent requirements for the daily integration and coordination of their activities in supply chains, therefore, they can achieve better results than those who work without coordinating various levels of management of their activities [3].

The specifics of supply chain management are related to what goods are produced and sold by a business entity, what policy it uses when interacting with distributors and end customers, that is, it can be individual in each case.

To effectively manage supply chains, their participants must interact based on certain principles, namely:

- the segmenting consumers based on the need for services;
- the orientation of the logistics network to the client;
- the tracking market demand and planning based on it;
- the study of consumer demand;
- the strategic planning of supplies;
- the development of a supply chain strategy;
- the use of methods of attracting (capturing) new distribution channels [4].

Consequently, the concept of supply chain management contributes to increasing the competitiveness of business entities in modern conditions. With the help of supply chain management, they get the opportunity to improve technology for creating value at all stages of chain formation.

The supply chain management process itself covers the following stages: planning, procurement, production, delivery and return.

At the planning stage, sources of supply are established, the nuances of consumer requests are investigated, requirements are imposed on the distribution system, operational stocks and volumes are planned, and the amount of supply of resources and goods produced is calculated. In addition, it is determined what will be produced in-house and what needs to be purchased from partners, and it is planned to manage the goods throughout the entire chain.

At the procurement stage, all the nuances of supply management are developed, their quality is analyzed, suppliers with whom contracts are signed are determined.

At the production stage, the following operations are performed:

- the production process itself;
- the management of structural elements (that is, control over technological changes);
- the management of production cycles and capacities (equipment, buildings, etc.), production quality, work shift schedule, etc. There is also quality control, packaging, direct operational actions, storage of goods and semi-finished products. It is important that all of these activities are consistent with planned or current demand.

The delivery stage is associated with the implementation of such operations as:

- the order management (direct creation and registration of orders, determination of the form of products, calculation of its value, registration and maintenance of the customer and product base, interaction with debtors and creditors);
- the warehouse management (selection, assembly, packing and dispatch of goods);
- the transportation of products (in accordance with the rules for managing delivery channels and orders).

The return stage implies the definition of criteria by which unsold products are taken back, the scheduling of return and direction for disposal [5].

Transport plays a critical role in supply chain management, being one of its key components. The productivity of organizations largely depends on the work of transport, due to the fact that the costs of transporting goods occupy a decent share in distribution costs. Correct and rational use of transport is the basis for the efficient delivery of millions of tons of goods around the world from manufacturers to end consumers.

From an economic point of view, transport is one of the defining elements of the production and commercial process. There are two limiting factors in the production and use of a product - the time factor and the spatial factor.

The time factor is that the goods produced today may only be needed after a certain period of time. This problem is solved with the help of warehousing, as well as the necessary equipment, equipment and certain storage technologies.

The content of the spatial factor lies in the fact that producers and consumers of a product are rarely in one place, but at some distance from each other. By linking production and the consumer, transport allows you to expand the boundaries of production. Transport itself is gradually becoming the cause of the emergence of a spatial factor - the development of transport and transport technologies makes it possible to build production further and further from the places of consumption of the goods. In today's economic environment, transport is always profitable.

Operating in a market economy, transport enterprises should be aimed at obtaining a single economic result in the logistics chain.

This is facilitated by many factors, among which the following can be noted:

- the developed market of transport services;
- the competition between enterprises and different types of transport;
- the tightening of requirements for tariffs and quality of services on the part of consumers, etc.

Thanks to efficient transport management, the logistics process of commodity movement (starting from suppliers of raw materials and materials, covering various types of intermediaries, and ending with consumers of finished

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products) is transformed into a single technological chain, and transport becomes an integral part of the single transport and production process. In this chain, the main functions of transport are to move goods and store them [6].

Any cargo, whether it be raw materials, materials or finished products, must be delivered to the place of further processing or final consumption. Due to the fact that the movement of goods consumes time, as well as financial and environmental resources, it is necessary that this process is economically justified, that is, it makes a significant contribution to the creation of the value of the goods. In this case time is an extremely important resource, since in the process of transportation products (stocks in transit) are not available for use.

Transportation also requires financial resources - in the form of internal costs for the transport of goods with the company's rolling stock and external costs for the use of commercial or public transport. Transportation costs include driver wages, rolling stock operating costs, and some general and overhead costs. It is also necessary to take into account the costs arising from damage or loss of the transported cargo.

Storing cargo in vehicles is expensive, but in cases where the transported cargo needs to be held somewhere for a short time, and after a few days to be sent further, the costs of unloading and loading at the warehouse can significantly exceed the losses from the idle time of loaded vehicles.

Temporary storage of goods in vehicles can also prove beneficial in cases where storage capacity is limited. Sometimes they choose special extended indirect delivery routes. This increases the travel time, but at the same time solves the problem of congestion in the warehouse at the point of departure or at the point of destination. In this case, the vehicle is used, in fact, as a mobile storage facility.

Transport services for supply chains should be carried out on the principles of logistics, borrowed from their general composition, developed and supplemented in accordance with the specifics of the service, namely on the principles of optimality, reliability and efficiency.

Based on the principle of optimality, transport processes should be carried out under all possible options only according to the most rational scenario, based on the selected criteria, such as the presence or absence of access roads and transport infrastructure, the distance of transportation, the complexity of routes, etc.

Using the principle of reliability, transport processes must ensure compliance with the schedule of departure, movement, transshipment, arrival. The interaction of vehicles should be carried out in such a way as to avoid delays of some and downtime of other modes of transport. The probability of disruption of the movement of the material flow due to the fault of transport should be minimal.

With the principle of efficiency, the work of transport should be carried out in such a way as to fully satisfy the needs for transportation, that is, the movement of cargo in space under conditions of the maximum full load of vehicles in terms of carrying capacity and cargo capacity, increasing the utilization rate of mileage, ensuring loading on the return (or next) flight, reducing total transportation costs [7].

Thus, the perfect form of technological interaction between various types of transport and transport service entities in supply chain management is a single technological process of transportation - a rational system for organizing the work of interacting modes of transport, linking together the technologies for processing transport units at points of interaction, providing a single rhythm in the transportation process.

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