

DISTRIBUCIJA UPRAVLJANJA TROŠKOVIMA

COST MANAGEMENT DISTRIBUTION

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Stručni članak

Sažetak: Razumjeti sadašnje i buduće potrebe klijenata i znati kako ih ispuniti, zadatak je svakog uspješnog poduzeća. Stoga, da bi poduzeća uvijek bila u koraku s razvojem suvremenih gospodarstava ona pokušavaju organizacijski, tehnološki i informacijski preorijentirati svoje poslovanje kako bi se povećala njihova produktivnost. Povećanje produktivnosti u poslovanju, poduzeća mogu postići osiguranjem visoke kvalitete upravljanja troškovima, s naglaskom na troškove distribucije u ovom radu. Logistika distribucije je vrlo važna za poslovanje poduzeća, jer se poduzeća preko njega povezuje izravno s korisnicima ili kupcima. Stoga, logistika distribucije je usko povezana s marketingom. Najvažniji cilj logistike distribucije je postizanje najviše razine pružanja usluga, ali uz najmanje moguće troškove. Posebna pažnja u ovom radu odnosi se na troškove distribucije i njihovo pravilno upravljanje.

Ključne riječi: cross-docking, distribucija, logistika, trošak, upravljanje troškovima

Professional paper

Abstract: Understand current and future needs of clients and know how to fulfill them is the task of any successful company. Therefore, to make the company has always been in step with the development of modern economies they try organizationally, technological and IT reorient their business in order to increase their productivity. Increasing productivity in business enterprises can achieve with focus on high-quality of cost management, in this paper, with a focus on distribution costs. Logistics distribution is a very important item of the company because the company over it links directly with users or customers. Therefore, the logistics distribution is closely related to marketing. The most important aim of logistics distribution is to achieve the highest level of service delivery, but with the least possible cost. Special attention in this paper is dedicate to the distribution costs and their properly management.

Key words: cross-docking, distribution, logistics, costs, cost management

1. INTRODUCTION

Logistics is defined as the process of planning, implementing and controlling the efficient and effective flow and storage of materials (raw materials, semi-finished and finished goods), services and related information from point of origin to point of consumption in order to meet the requirements of users. Distribution is one of the core activities of business enterprises. The distribution related to the movement of goods from manufacturer to consumer. Without it wouldn't be possible market supply of goods, and in some cases supply of manufacturing enterprises raw materials, semi-finished goods and other material necessary for the production process. All this must be done at minimal costs to the place where real and potential consumer expect and want, with fast and accurate feedback, in the shortest possible time, in the appropriate range and the optimum amount. The distribution costs are the most important factor in the distribution system companies. The largest share of the total distribution costs are the cost of storage, transportation and inventory management.

2. GENERALLY ABOUT LOGISTICS

2.1. The definition, content and tasks of logistics

According to the American Society of logistics, logistics is: "The process of planning, realization and control of efficient, cost-effective flows and storage of raw materials, semi-finished and finished goods and related information from point of delivery to the point of receiving, appropriate to the requirements of customers." [1] Definition of logistics to the Council of Europe reads: "Logistics can be defines as controlling the flow of goods and raw materials, manufacturing process, finished products and associated information from point of origin to the point of end-use in accordance with customer needs. In a broader sense, logistics includes the return and disposal of waste material." [2] The central role of logistics result of its multidisciplinary nature, which takes into account the technical, technological, economic, organizational, environmental and legal aspects. In accordance with these aspects, manager of logistics activities must be able and capable to match all external and internal factors in order to generate profits. It is equally important to manage all the logistics processes,

starting with the transport, storage, transport resources and their variables that determine traffic flow and marketing traffic.

2.2. The economic importance of logistics as the enterprise level

The significance of logistics in the economy is growing steadily. Logistics in the last twenty years has developed and established itself more than the previous hundred years. The importance of logistics is that the application of logistics principles and methods can greatly reduce costs, and which leads to the increase in their profits. Logistics in the economy has a specific significance because a significant portion of the time and cost of reproduction process waste on logistics activities.

2.3. Logistics as a business function

The need for the introduction of logistics occurred in the conditions when the supply of goods could not meet existing demand, and the task of the company was to find the optimal way of increasing the volume of production and improving labor productivity. This was achieved by technical and technological development, automation and realization, which was later the problem of market saturation. The goal of logistics as a business function, is to find and meet the needs and desires of consumers. Therefore, companies pay special attention to distribution channels, and their expansion and constant renewal. The purpose of logistics, ie. new logistics thinking is cost-favorable production and distribution, and continuous improvement of the flow of goods and information throughout the enterprise.

Logistics consists of three components: [3]

- economic, value (how much);
- technical (eg. in order to be stored, in order to transport, in order to pack);
- information (which is the criterion for deciding).

The market requires companies to ever shorter periods of coming up with new and diverse products. Customers are demanding faster delivery of decreasing amount, and the company must be ready to meet their requirements.

Also, in order to lower costs of production should be reduced warehouse stocks of materials, semi-finished and finished products, and parallel with this, and shorten the response time to the execution of orders and the decision to create a new product. Therefore, the high cost of production, handling, storage and transportation should be reduced.

In the area of distribution costs can be reduced by optimizing the distribution, on the basis of better transport and storage systems, timely delivery of goods in the desired quality in the right place and the like.

The ability to rationalize costs should be used in components of information, particularly in the preparation and distribution of data within and outside the company. Here is very important speed and timeliness of data and their exchange throughout the entire company. For fulfilling all the requirements necessary logistical processes that connect all of the components which is

achieved by the overall concept, which makes logistics becomes an integral part of the success of the company.

3. ECONOMIC OF LOGISTICS FUNCTION IN THE COMPANY

For the proper functioning of a company it is important to establish a proper balance between all business sector. One of the preconditions for business success is to know the proper way to manage the resources within individual groups of tasks. Therefore, it is in every company needs to optimize logistics process: purchase, storage, production, and most importantly sales and transportation. Every company aims at the highest possible income, less expenses, to make a difference between them was a much. Each business function group related activities companies which together form a whole.

Economics of business functions is part of the economics of the company that studies and rational use of resources by individual business processes in the company. [4] It explores the essential factors efficiency of business functions to improve the performance of the enterprise. Key areas of research within the economics of the business functions are the costs of action and performance of the operating functions.

Research costs includes their classification and measurement. The cost of business functions usually classified into four main groups: [4]

- the costs of materials;
- labor costs;
- the cost of funds for the work;
- miscellaneous expenses.

The cost of materials we include the cost of all types of objects work. These are the costs of raw materials, intermediate products, primary and auxiliary materials, components, energy, inventory, packaging and so on. The labor costs included amounts to gross wages and salaries. The cost of funds for the operation include depreciation, insurance and maintenance costs of property, plant and equipment. Miscellaneous expenditures include obligations of business functions for taxes and fees, fines, fees, court costs, etc.

Modern and effective tool in the study and improvement of the business functions of the company is functional analysis values. It is a scientific method that examines the expenditure for each business function. Functional analysis of the value is a set of procedures for the effective detection and reduce unnecessary costs and at the same time improving the quality pf products and services company. [4]

Regular monitoring and analyzing the performance of the business function allows timely take specific measures to eliminate the problems, as well as achieve better change within the company. The analysis is based on research on external and internal factors that influence changes in the performance of business functions. Close scrutiny of the results of operations can be performed on an annual basis through the annual financial statements, but depending on the speed of change, performance information can be monitored regularly throughout the year.

3.1. The use of logistics within business functions

Total business logistics system of an enterprise can be observed to the business functions. Business functions of the company in the logistics sense are: logistics procurement, logistics production, logistic distribution and logistics storage.

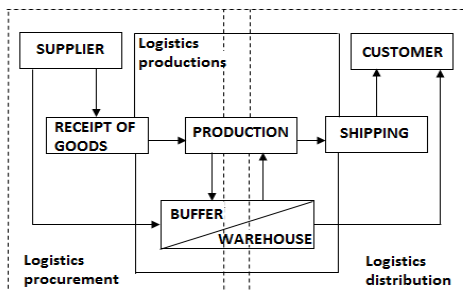


Figure 1. Relationship between procurement, production and distribution [3]

3.1.1. Logistics procurement

Logistics procurement presents a logistics system that is associated with the market. It represents the link between logistics distribution suppliers and logistics of production analyzed companies.

In logistics procurement enter the following logistical tasks: [5]

- considerations “make or buy”;
- harmonization of procurement with production;
- minimize transport costs;
- the degree of cooperation with suppliers;
- choice of suppliers;
- security of supply;
- optimizing procurement costs;
- choice of packaging;
- quality control.

Economics procurement is part of the economics of the company that deals with the rational use of available resources in the field of activity of supply companies necessary material resources or means of production. The economic efficiency of procurement measured-value generated effects and acquisition costs, as well as on other human and material resources that affect the productivity, efficiency and profitability of the purchasing function.

In certain phases of the execution of the procurement process, the company incurred costs that directly depend on the procurement activities of organizational units of the company. These are, primarily, the purchasing value of procured resources, then transport costs, insurance costs, handling costs in transportation, admission costs and so on. Each of these costs can be reduced by increasing the amount of the purchase. Therefore, the good organization of the procurement function can provide significant cost savings enterprise.

The share of the purchasing function in the whole enterprise is examined according to the amount of total costs, number of employees and total damages due to delays at certain points in the production or sale of which were the fault of procurement.

3.1.2. Logistics production

According to the order in the logistics chain's procurement follows production. Logistics production situated between logistics procurement and logistics distribution and interconnects them. Logistics production is the totally of the tasks and their procedures to ensure optimal flow of information, materials and values in the transformation process of production. [4] The task of the production function is not in line with market needs and available human and material resources company produce certain types of products, suitable quality, in the right time and with the lowest possible costs.

Logistics production includes: [5]

- considering whether to produce or buy;
- structuring of production;
- planning and control;
- formation of the physical and information flow through production.

Economics production studies the possibilities and conditions for rational use of resources in the field of creating finished products in order to achieve the greatest possible profit. In a broader sense, the economics production are related to the optimization of production. The optimization consists in choosing the most appropriate solutions from the standpoint of the relation between income and expenses. The cost of production functions can be divided to: [4]

- material costs;
- gross salaries to employees;
- costs for depreciation;
- miscellaneous expenses.

3.1.3. Logistics distribution

The flow of goods ends in consumption, based on the distribution functions. Here is important logistics distribution. In warehouse is unrolling two group of processes, namely the storage processes and the processes of movement. [5] In this way the function significantly determines the location and storage technique. Distribution is the end point that is extremely important because through it comes to sales and end-users, or customers. The cost of the tool storage can be divided into constant and variable. The constant costs include the costs of storage capacity (depreciation of buildings and equipment, interest, rent, insurance, maintenance) and warehouse management costs (salaries of the manager and the employees). The variable costs include the costs of labor, in charge of transport and handling (reception, accommodation, examination and handling of inventory, internal transport and issuance) and the cost of holding inventory that depend on the value of stored material resources (interest on invested funds, insurance stocks, spillage and wastage, breakage, breakdown, theft and other losses in inventories).

Logistics distribution includes: [4]

- determination of the distribution channels;
- a decision on setting up representative;
- a decision for their own or other transport;

- a decision on a minimum quantity order;
- a decision to produce or buy;
- the location of each warehouse;
- inventories at certain locations;
- storage system;
- distribution with minimum costs.

3.1.4. Logistics storage

Basic functions of warehouse include the transfer, sorting and transmitting information. For correct storage of the product, it is necessary to move, and this takes place in four distinct areas: [7]

1. Receiving – receiving incoming goods from the carrier and performing verification of quality and quantity.
2. Storage – transfer of goods from the warehouse entrance and move to different places for storage within the warehouse.
3. Commissioning – commissioning the ordered products to meet customer orders including checking, packing and transport to shipping ramp.
4. Issuing – shipping goods to customers certain mode of transportation

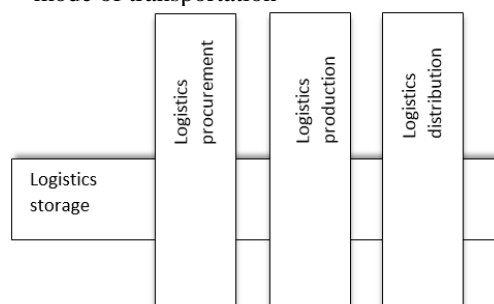


Figure 2. Logistics storage [5]

Economics storage is part of economics that studies the possibilities for enterprises rational use of resources in the field of storage activities. Rational use of available storage space, equipment and labor in a warehouse affects the costs of storage operation and its business success. On the rational use of storage affects the way the schedule of material resources, capacity utilization of warehouse space, inventory turnover rate, the degree of mechanization, and methods of manipulation and transport of material resources within the warehouse.

The cost of the storage functions are divided into constant and variable. The constant costs include the cost of storage capacity and the cost of managing storage. The variable costs include the cost of work on the transport and handling, and the costs of holding inventory that depend on the value of stored material resources.

4. ROLE OF LOGISTICS DISTRIBUTION

National Council of Physical Distribution Management term of distribution is defined as: “An effective movement of finished goods from the production line to the consumer, and in some cases included the movement of raw materials supplying to the start of production.” [8] The modern purpose of the distribution

is to enable the placing of the goods available to consumers in a manner and conditions that best meets their needs. The basic task of the distribution is to provide safe, fast and rational flow of goods from production to consumption, that space and time coordinates the productions and consumption, to increase capacity for goods traffic and facilitate its continuous flow, to direct production towards the needs of the consumer, to act on placement new products and to affect change in consumer habits and culture and protect the interests of consumer.

4.1. Logistics within the distribution system

4.1.1. Distribution channels

According to the American Association for the marketing, distribution channels are: “The internal organizational units and external agents through which circulating goods and services.” To L.P. Bucklin, distribution channels are: “Groups of institutions conducting those activities that are presenting at moving product and its ownership from production to consumption.” [6]

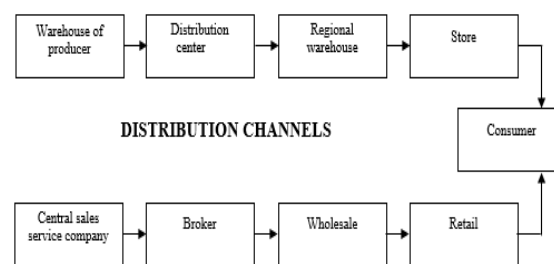


Figure 3. Schematic representation of distribution channels [9]

4.1.2. Physical distribution

Physical distribution is a set of activities that enable the efficient movement of finished goods from the end of the manufacturing process to the consumer. In some cases, including the movement of raw materials from the source of supply to the beginning of the production line. These activities include system orders and delivery of goods, inventory management, storage, handling of goods and transport.

The basic characteristic of the physical distribution is continuous flow of material or products, provided that the flow at certain points halts. The reason for these delays is the need to store goods for a time, processing, packing, etc. is mounted. The strategic and operational problem is that logistics management should solve the delays to a minimum. It should do so by their shortened without affecting consumer satisfaction and the excessive increase in distribution costs.

4.2. Goals and tasks of logistics distribution

The goals of physical distribution is to achieve a certain level of quality service delivery, taking into account the costs required to achieve the goal. Many companies thanks to service delivery to achieve their

success. Important elements of service delivery are the delivery terms. They can be compared to the products according to consumer groups, to the geographical location and the like. Raising the level of service delivery should not affect the above-average increase in costs. The largest contribution to profit isn't maximum level of service.

For all logistics subsystems is very important orientation to customers. This orientation in the companies is important because the company is in distribution directly connected with the customers. From orientation to customers follows the great significance of thinking about the service of logistics distribution. Therefore logistics distribution should constantly tear for better, innovative solutions to the problems of customers.

Based on the stated objectives of logistics distribution should establish its system, which can distinguish the following cost elements: [10]

- TS = storage costs
- TT = transport costs
- TN = cost of executing orders
- TG = cost of losses (claims and lost orders)
- TP = packaging costs

According to this, the total distribution costs will be:
 $UTD = TS + TT + TN + TG + TP$

5. DISTRIBUTION COSTS

5.1. Types of distribution costs

Distribution costs incurred directly behind the manufacturing process, and refer to: [6]

- selling costs, storage costs, transportation costs, costs of processing orders;
- salary costs of administration, communication costs, service costs to customers;
- other costs related to the distributions of goods.

Distribution costs are important for companies, and for consumers. They vary from company to company. Of them is largely dependent competitive ability. Reduce distribution costs should be achieved by balancing the cost of all elements of the distribution system and customer demands for an appropriate level of quality distribution services.

5.2. Cost Management

Cost Management is part of the overall process of managing the business success of enterprises. Cost management is a special way of running a business that the greatest importance in achieving organizational goals given to the optimization of costs. Every procedure in which the business enterprise assesses the relationship between costs and benefits. The goal of the company in the long term to maximize profits. The purpose of cost management is to undertake activities for ensuring lasting profitable business.

The basic goal of cost management is to achieve the highest possible long-term benefit from the resulting cost

or to achieve a particular goal of management with the lowest costs without long-term negative consequence on the results of company business. Cost management includes: [11]

- forecasting, planning, budgeting and cost control;
- analyzes that show the behavior of costs depending on the circumstance changes in which they are incurred;
- analysis of the causes of deviations from the planned size;
- keeping costs within acceptable limits;
- providing information to managers to choose between alternatives in order to achieve optimal economic results.

Good cost management is feature of the successful organizations and educated and motivated management. In an effort to better cost management, developed a number of methods and procedures that management provide certain information necessary to make decisions in order to optimize costs based on facts. These are the following methods: [12]

- Traditional Product Costing (TPC);
- Process Based Costing (PBC);
- Activity Based Costing (ABC);
- Target Costing (TC);
- Activity Based Budgeting (ABB);
- Balanced Score Card (BSC);
- "Kaizen" Costing (KC);
- Value Engineering (VE);
- Quality Cost Management (QCM).

Traditional Product Costing (TPC) – this model is used for the delimitation of the costs of the organization. This method seeks to cover the cost accounting of direct materials and direct labor, while the overheads connected to direct costs. The traditional product costing answer to the question where payment is?

Process Based Costing (PBC) – the production costs is monitored and evaluated next logical stage in the production process. Within the PBC model direct costs of materials and labor are charged with and follow through phases of the production process, and the costs of manufacturing overheads are added to the direct costs to the level of each stage. PBC models should show the causes of the cost of production overheads and the level of their joining the direct costs of each stage in the production process. Answer the question where are the causes of the cost of production overheads?

Activity Based Costing (ABC) – includes deployment costs per activity. This method follows the movement of the cost per individual activities or part of the production process. The team allows easier monitoring of costs in certain parts of the process, and managers easier to focus on the elimination of redundant costs and work. Answer the question why payment is?

Target Costing (TC) – is a form of accounting coverage and systematic measurement of costs involved in a product or service with which achieves the planned profit. In order to target at all costs could be considered necessarily a good knowledge and understanding of the existing cost structure. Because the primary interest of the

organization for a balance of quality and functionality, combined with the level of price that the market accepts. Answers the question how costs may be?

Activity based Budgeting (ABB) – a model which is based on the determination of the application, rather than costing. The interest of this method is focused on the capacity of the equipment and the level of its sufficiency to meet the requirements of the customer. Analyzing the capacity is it important to determine capacity of the equipment and number of employees. After making initial calculations this method analyzes the costs arising from the use of material resources and human potentials. Therefore, this method is suitable for management decision-making on the level of available capacity of the organization. It gives an answer to the question what are the organizational capacities required for the product or service?

Balanced Score Card (BSC) – is based on knowledge about the processes encompassing the costs of four main perspectives through which management has the ability to transform their vision and strategy in business activities. The four perspectives of the development of the organization are: financial perspective, customer perspective, internal business perspective, perspective of development and growth of the number of employees. It answers the question about the results of linking and balancing the factors of success?

“Kaizen” Costing (KC) – are designed in Japanese companies. The essence of this model is the continuous reduction of costs during the production process using the procedures. This model assumes that everything can always do better. Answers the question of whether even better?

Value Engineering (VE) – procedure that tends to influence continuous cost reduction. Answer the question of whether the costs are reduced?

Quality Cost Management (QCM) – reduced to the recognition, identification and optimization of quality costs in a structural element of the total cost of the organization. Quality costs are incurred in securing satisfactory quality and gaining confidence in it, as well as the losses suffered when it has not been achieved. The purpose of cost management is to determine the quality of non-compliance in business processes in order to permanently eliminate the cause of their creation and business processes are done with the greatest care. The model provides an answer to the question that the costs would not be incurred if every job well done for the first time?

Each of these models can be used to manage costs. This is particularly important in a market-oriented economy in which the business results achieved at the end of the accounting period is considered significant and objective measure of the success of the organization's management.

6. CONCLUSION

Distribution plays a major role in the progress of the entire logistics system. The speed at which the product must reach the destination, time alignment of production and consumption, the price at which the transport must be

carried out, increasing competitiveness of goods, the impact of the changing habits of consumer and the placement of new products on the market are just some of the tasks that must be executed in order to distribution took place successfully. The costs in distribution have a significant impact on the entire business enterprise so the goal of each company strive to minimize distribution costs. The most significant costs in the distribution are storage costs, transportation costs and costs of inventory management. Distribution costs are one of the most important factors in logistics distribution. With minimal costs and greater efficiency, the company will have a long-term successful business, so that it can compete in the market.

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