

## The Miles Stones of Logistics Management Development

*Vladimir Dmitrievich Sekerin and Vladimir Dmitrievich Gribov*

State Institution of Higher Academic Education of Moscow Region “Financial Technology Academy”,  
Gagarin Street, 42, Korolev, 141070, Moscow Region, Russia

---

**Abstract:** Theoretical foundations and practical applications of logistics management in the context of development of modern post-industrial economy are considered in the article. Functional spheres of logistics management, modern logistics concepts providing significant competitive advantages for production companies are described. The role and the place of after-sale service logistics in conditions of globalization are analyzed; the phenomenon of hyper-competition which becomes stable competitive advantage of manufacturing companies is considered.

**Key words:** Logistics management • Logistics concepts • Marketing • Globalization • Hyper-competition • Competitiveness • Efficiency of sales channels • Outsourcing of logistics functions • e-business • Service logistics • Service guarantees • Service standards

---

### INTRODUCTION

Interest in logistics both in the world and in our country is provoked by the fact that traditional reserves which can provide increase in competitiveness-such as quality, prices etc.-and marketing approaches oriented to production of needed by the market product are not effective any more. That is why the key factor to improve competitiveness is higher reliability and reduction of delivery costs, ability to organize logistics process in a proper way. Logistics has become integral feature of modern economy.

Logistics chains have become more complicated and market requirements-more strict, therefore participators in the logistics chain need a new concept because a company can be successful only if it stops considering itself as isolated business-unit. We need complex management of all enterprise functions-from the purchases operations and to delivery of ready products to customers-i.e. horizontal integration of organizational structure of enterprise-and this can be achieved through building of internal chains of supplies to provide material and other flows [1].

**Main Part:** Implementation of logistics principles and methods into management system can be done by new scientific and practical approach called logistics management. Logistics management includes a part of the process in supply chains in the course of which efficient flow of produced goods, including their storage, service and associated information is being planned, sold and monitored, from the moment of their appearance to the moment of their consumption with the purpose to satisfy consumers' needs [2].

New principles of enterprise organization and management based on logistics are being successfully implemented in practice by most effectively functioning companies and associations [4].

Most part of international corporations and companies have developed and used a lot of logistics concepts which provided them with competitive advantage. The basic logistics concepts are as follows:

“REQUIREMENTS/RESOURCE PLANNING” (MRP). MRP is based on planned inflow of material resources and stocks for all time of production. MRP is realized in production and supplies logistics systems-MRP I / MRP II-“Materials/manufacturing requirements/resource planning” and in distribution-DRP I /DRP II-

Distribution requirements/resource planning” (systems which allow to plan volumes of distributed products (resources);

“RULES BASED REORDER” (ROP). This concept is based on the oldest method of control over stocks-finding "reorder point" and measuring statistical parameters of product sales. This concept allows to define and optimize the level of safety stock in order to level fluctuations of demand;

“QUICK RESPONSE” (QR). This concept is based on quick reaction and provision of logistics coordination of retailers and wholesale companies in order to improve flows of ready products in distribution networks in accordance with additional changes in demand. Use of these concepts is based on systematic monitoring of sales in retail networks and providing the wholesale companies with information about sales volume by specific nomenclature and assortment and then pass this information further-from them to the producers.

“CONTINUOUS REPLENISHMENT”. This is a modification of QR and allows to eliminate the necessity for new orders to replenish the stocks with ready products.

“AUTOMATIC REPLENISHMENT”. This is more advanced variant of QR and CR concepts. Necessary rules how to make decisions by suppliers (producers) in regard to the categories of goods and their attributes are described;

SCM (Supply Chain Management) allows to integrate key business-processes which originate from the final user and cover all suppliers of products, information and services in the process of adding value for consumers and stakeholders.

“LEAN PRODUCTION”. This concept demands much less resources then mass production-stocks can be reduced, as well as the time for production of 1 unit of product, with less defects and losses because batches and time are as minimum as possible. LP uses JIT concept and includes KONBAN and MRP systems. Logistics concept JIT (“JUST-IN-TIME”) was formed in 50s of the last century when Japan company Toyota Motors and then the other automobile companies of Japan started to implement KONBAN system which potentially excluded stocks of materials, half-ready items and components in production process. Effect from implementation of LP is especially important in industries with expensive fixed assets (metallurgy, machine-manufacturing, [5-7].

In modern practice the following innovation technological methods to increase efficiency of sales channels are used:

- Optimization of packing operations logistics (recycled or safely disposed materials, standard containers, cooperation with transport services);
- A trend in simplification of communications and implementation of e-commerce methods is observed;
- Services for customers are being extended and modified;
- Direct on-line channels of interaction with customers are being implemented (websites for customers, special forums and consulting services);
- E-business approaches are used (for example, B2B) including provision with online catalogues of products, e-payments and contract-financial documents in electronic form.

Hyper-competition is manifested in very rapid growth of competition. Enterprises and organizations react to it by focusing on main activity and outsourcing more logistics processes, which add value.

Demand for logistics services as one of the most important tools in competition will grow in future. Besides classical kinds of logistics services new and contributing to each other services appear. This results in better attractiveness of the whole market of logistics services [8].

Globalization concentrates adding value activities all over the world in several production sites. A company using the strategy of global coordination has world integrated network and constantly exchanges information, know-how, products, staff and components in coordinated way.

Globalization features of value adding system are revealed in globalization of demand for logistics services. That is why globalization of logistics organizations is needed.

Electronic signing contracts with business customers-B2B-and electronic trade with end clients-B2C-or e-business actively implemented into the economy determine the requirements to logistics leading to development of new logistics services. B2B and B2C can be successful only when it will be possible to form the system of control over physical movement of cargo. Today all specialists agree that key disadvantage of Internet technology is logistics feature of order realization-physical flow of goods and services can move much slower than information flow.

Partner relationship between participators of distribution channel can be in various forms: formation of inter-company, inter-function teams, joint projects, joint use or continuous replenishment of stocks. Such

partnership relations allowed many companies to refuse from distribution systems based of prediction of events and start to use distribution system which responds to events. Before now in every intermediary point at the company, distribution center or sales outlet some stock of products is kept. Every intermediary link automatically makes an order when the point of re-order was reached. If the volume of sales is lower then it was predicted the enterprise usually tried to reduce stocks through discounted sales or by the methods of sales stimulation.

Reacting systems of distribution must act by the initiative of the consumer. Manufacturer forms and keeps stocks as the order is placed. For example, *Philips medical systems* receives the orders for Roentgen equipment first and then within 3 months carries out manufacturing and delivery. This time includes approval of infrastructure and design of equipment, training of customer's personnel, installation and commissioning of the device. *Benetton* does not make long-term forecasts about which colours will be demanded by people in a year or two but uses the system of quick reaction, painting all produced clothes in grey and then re-painting them into those colours which are popular now. Production based on orders, not forecasts reduces costs for keeping stocks greatly and also reduces risk that the goods will not be sold.

In conditions of such phenomenon as hyper-competition the companies start to pay serious attention to service logistics which becomes stable competitive advantage of Russian producers. For efficient guarantee service it is necessary to develop the strategy of after-sale service which suggests making a series of interconnected key decisions.

In the process of development of market relations more and more customized products appear in the market which complicates the sales of such products. The systems of order processing, their delivery and logistics service can vary greatly depending on market segment, both by requirements and key criteria [9].

The base of modern logistics service is based on the following principles:

- Logistics service must correspond in full to requirements and needs of consumers and the character of consumed goods;
- Logistics service must be maximally flexible, oriented to changing market demands, serviced products and consumers and strongly correlate with marketing.

However, logistics service is still the one of the least developed spheres of sales activity of Russian enterprises and associations not only on external markets but in internal market as well. Producers have mentality of past years with producers when they worked in deficit market and such situation did not increase producer's interest in the future of manufactured goods. This situation complicates greatly the task of organization of logistics service corresponding to modern requirements. The problem must be solved through studying of world best practices of logistics service and use of this experience with due regard to Russian conditions.

World practice has developed some rules of organization of efficient logistics service, they are as follows:

In modern conditions a consumer should be promised, or it is necessary to familiarize a buyer in targeted segment with the text describing the services provided by the company but in the beginning it is necessary to investigate opinions of the buyers in this segment-what they think about service, which specific level of service they need.

It is appropriate to guarantee service and its qualitative parameters in volumes higher than the buyers of this segment expect. This will facilitate formation of positive emotions of targeted audience, their wish to continue and develop contacts with the origin of such emotions. Any, even rare, contacts with buyer must increase and develop positive attitude of the buyer to service department of organization.

It is necessary to develop standards of service for every employee in this department because this will allow personnel to see the level of quality expected from him.

Service standards are commonly understood as the regulatory framework of service department's employees which must be followed to provide high quality of all operations and guarantee satisfaction of consumers' needs. In order to form standards the following approach can be used: the wishes of consumers are formulated distinctly first, then the task is described which will allow satisfying consumers' needs, then the method to perform this task must be found. Such approach to elaboration of standards will allow to measure the activity of every specialist: it will provide objectivity in measuring quality of service, including separate elements which can not be measured in quantity well-for example, politeness, friendly attitude. In order to make all employees of service department read and study service standards the

top-managers should use trainings and coaching. It is proved in practice that specialist which knows service standards well gets less tired during work because standard describes most rational approaches and work techniques. As a result activity becomes more intense, satisfaction with work also grows. In the process of mastering service standards employees get information about the situation in company, its products, existing and perspective requirements of the buyers, successes and failures in external economic activity of the company and their causes. Most part of obtained data is about rules and methods of service, how to form favorable psychological climate for interaction of a seller of the service with the customer who visited service point.

Quality of work can be evaluated through comparison of factual situation with what is demanded by service standards. Such analysis should be done regularly and its results should be discussed with those employees who showed poor results. All this will allow to develop and take organizational and other measures intended for avoidance of these mistakes in future (and as a result, dissatisfaction of customers). The probability of making mistakes grows proportionally to the length of order chain, that is why the number of elements included into service must be as small as possible (but without effect to the quality of service).

Diversity of services provided by the company for their customers will increase probability that customer will remain loyal to the products of the company if the price will go up. All possible communication channels must be used in order to provide the customer with easy and quick contact with service department.

Service is understood as a system of support which allow the customer to get (choose) optimal for him kind of purchasing and consumption of technically sophisticated product, to get economic benefit from use of it within reasonable period of time, determined by customer's interests. The key tasks of service system are as follows:

- Consultancies for potential buyers before their purchasing company's products;
- Training of employees of the customer's company (or himself) for most efficient and safe use of the product;
- Preparation and handing over of appropriate documentation;
- Prior-sale preparation of the equipment in order to exclude even the slightest fault in its work during demonstration;

- Organization of transportation of the product to the place of use;
- Preparation of the item for work at the place of use (installation) and demonstration;
- Keeping equipment ready for use for the time period when this equipment is installed at customer's premises;
- Quick delivery of spare parts, formation and development of stock networks necessary for it and close contact with the producer of spare parts;
- Collection, systematization and processing of data about use of item (equipment) by buyers, registering claims, recommendations and proposals announced by buyers;
- Participation in modernization and improvement of items after analysis of mentioned above information;
- Collection, processing and systematization of data about organization of service work at competing companies, innovations in service sphere proposed by them;
- Assistance to marketing department of the company when this department analyzes and evaluates markets, products and buyers;
- Formation of regular customer base.

Formation of the strategy of after-sale service includes elaboration and making interrelated decisions determined by 3 parameters. These parameters reflect the characteristics of aggregate supply of useful function delivered to the market [10].

- In the process of design of the product all the problems associated with its service must be taken into consideration: module designing, calculated price of technical maintenance works, integration of remote service systems, opportunity to restore the item in future and reliability coefficient.
- While planning service the scope of services must be identified, components of mixed service must be balanced, segmentation of service supply must be done; services provided by competing companies should be identified, desired by the consumer level of quality of all provided services must be described.
- Service the management system must be changed during life cycle of services in accordance with imposed economic tasks: direct and indirect profitability, cooperation or its absence in the sphere of technical maintenance, ways of payment, differentiation or integration of service functions and

development of adequate policy of assigning of company's representatives with authorities, incentives to motivate their activity.

Therefore elaboration of competitive service strategy suggests consideration of all interdependencies between 3 main activities which define the character of product and its characteristics, corresponding to perspective expectations of consumers.

With the purpose of identification of service policy a company must pass through the following stages:

- Provide systematization (including hierarchization) of different types of decisions in the sphere of mixed service depending on their significance for development of organization.
- To draw the list of interdependencies which must be managed both inside the company and outside of it in the framework of service planning.
- To form the combination of interrelated and mutually contributing aims; to develop time program of their achievement depending on formation and development of mixed service system in the company.

With the purpose of proper accounting of time factor the notions "life period" and "life cycle" should be distinctly differentiated. The first notion apart from "life cycle" (in classical interpretation) means combination of life stages of an item (product) which are viewed as useful function, from the time of its production to the time of its disposal or termination of its use by the last known user.

While designing new industrial product different alternative variants of technical support and service must be considered and evaluated.

Approach known as "full value analysis" forms preconditions for deeper economic analysis and refers to the notion "total value of ownership"-a sum of costs associated with product (item) from the moment of its designing and to the moment of its disposal (Life Cycle costs-LLC). In this case costs of after-sale service are already calculated in the process of designing and production of a product [11].

In the process of product design side by side with calculated value of its use the desired quality of its service, its purposes must be also taken into account.

In the process of module design 2 parameters are taken into consideration: evaluation of possible reduction of time taken by repair, comparison of the profitability of

service based on changing of modules with the profitability of traditional system, when the item is repaired at site.

Design and service of the equipment also provide opportunities of its further restoration or reconstruction. Reconstruction means serious operation which is analogous to industrial production. In this case already made product is "raw material". In the process of reconstruction the equipment is completely dismantled and then after changing or repair of worn parts and units is assembled again. As a result the equipment acquaints the potential of use which can be compared with the potential of new equipment.

In experts' opinion restoration of the equipment takes only 1/10 of components and 1/5 of energy necessary for production of new equipment. But the key question is as follows: when the company has already won the market and started to sell this equipment, what is more appropriate: to produce new equipment with analogous technical parameters or restore old equipment?

## CONCLUSION

Today competitive advantages depend on ability to organize logistics process in a proper way rather than on the sum of investments. The costs for storage, handling and transportation can be compared with production costs and influence significantly the price for goods. Logistics has become a tool of marketing strategy. Marketing in its interdependency with logistics has become new management concept in economy.

**Inference:** Perspectives of development of logistics management to a greater extent than other forms of management depend on its ability to correspond to the development of modern post-industrial economy. Today flexible customized production, spread of network structures, modification of enterprise management structure and the management itself, horizontal coordination of corporations have become world trends. This must be accompanied by trustful relations between manufacturing companies and the buyers of all levels, elaboration of after-sales service strategy which suggests a series of interrelated key decisions. Mentioned strategic mile-stones in development of logistics management influence the rate and the character of development of institutional-economic system of society emphasizing their innovative component.

**REFERENCES**

1. Ballou, R.H., 1993. Business Logistics Management. Third Edition.-Prentice-Hall International, Inc.
2. Stock, J. and D. Lambert, 2005. Strategic Logistics Management. Moscow: INFRA-M.
3. Gaginsky, A., 2012. Logistics: a textbook. Moscow: Dashkov and K<sup>1</sup>.
4. Johnson, J.C. and D.F Wood, 1990. Contemporary Logistics, 4<sup>th</sup> ed.-New York: MacMillan.
5. Logistics World Innovations, 1999. Date Views 05.02.2014 [www.logistics-world.com/innovations\\_p.htm](http://www.logistics-world.com/innovations_p.htm)
6. Logistics, 1999. Date Views 05.02.2014 [www.primal.iems.nwu.edu/~levi/tools.html](http://www.primal.iems.nwu.edu/~levi/tools.html)
7. Logistic Resources, 1998. Date Views 05.02.2014 [www.loglink.com](http://www.loglink.com)
8. Bowersox, D.J. and D.J. Closs, 1996. Logistical Management. The Integrated Supply Chain Progress. The McGRAW-HILL.
9. Moller, C. and J. Johansen, 1993. Paradigms in Logistics. Department of Production, University of Aalborg, Denmark.
10. Snapiro, R.D. and J.L. Heskett, 1985. Logistics Strategy: Cases and Concepts. St. Paul, Minnesota: West Publishing.
11. `Sekerin, V., 2011. Logistics: a text-book. Moscow: Knorus.