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TYPICAL LOGISTICAL PROCESSES

ABSTRACT

For modern global economic activity changes in the structure of goods, networks, technical and technological development and increased competence are significant, which requires new solutions and new mode of thinking.

The competitive model which relied in the past on product innovation will have to be largely supplemented by process innovation that add greater value for customers. The basis for competing today and in the future will be competitive advantage which enhances product excellence as well as process excellence.

KEY WORDS

logistics, global economic activity, competitiveness, excellence

1. INTRODUCTION

As a science and activity, logistics is becoming more and more inevitable in mastering the problems of economy, transport and the overall problems of the society. Immanent to the logistical concept is the system approach, the processing of total costs, service concept and economic and technical efficiency. All that makes logistics an integrative discipline (an interdisciplinary science). The goals of logistics are lower costs, more flexibility, higher quality and faster response times (»quick response« logistics).

Attention that is nowadays paid to logistical processes can be supported by a hypothesis, explaining how logistics is becoming one of the most important factors of business's success or failure.

2. LOGISTICS AND SYSTEMIC THINKING

The theory of systems as a new way of thinking with which an entirety is aimed at represents:

- science of complexity and interaction of events, happenings, elements, relations, in short, everything that makes up the living,
- science of making the complexity and interaction easier to survey, and science of the general methods of control.

Comprehension of entirety is aimed at by mostly using the basic points of view, elements and connections[1] about a certain object/process, which in practise can be achieved under the condition that:

- there is creative *co-operation*,
- clear *surveyability* is achieved,
- sufficiently clear *insight* into the particular elements is achieved,
- sufficiently clear *insight into the synergies* is achieved.

If we paraphrase Dr. Mulej[2], we could say as far as logistics is concerned, that it is a typical child of system thinking. It connects external and internal sources of competitiveness. Not the single service, but the system is put on sale.

The council of Logistics Management defines logistics as following:

»the process of planning, implementing and controlling the efficient, cost-effective flow and storage of raw materials, in-process inventory, finished goods, and related information from point-of-origin to point-of-consumption for the purpose of conforming to customer requirements«

Another definition of logistics would be *»the art of maintaining control over world-wide supply-chains by a combination of transport, warehousing skills, distribution management and information technology«.*

Viewpoints that can be traced in logistics are primarily:

- time,
- costs,
- customer satisfaction and
- assets.

Principal elements that are taken into account:

- transport,
- storing and managing of storehouses,
- manipulating,
- packing,
- orders and
- connections among them as well as connections between the suppliers, businesses and buyers (supply chain from point-of-origin to point-of-consumption).

For that very reason communication and information technologies, which are nowadays becoming an increasingly respected production factor are of utmost importance.

3. LOGISTICAL PROCESSES

3.1. THREE-SEGMENTAL LOGISTICAL MARKET MODEL

The three-segmental market model is characterised by the logistical affinity, the criterion being the purchase of goods that are or are not often stored, re-loaded and distributed in the wider area. Therefore, we distinguish between low logistical segment, mid-logistical segment and high-logistical segment.

a) Low-logistical segment:

- it is mostly the raw materials and other less valuable mass merchandise that we are concerned with,
- agricultural and forest economy products (fruit and vegetables excluded),
- feed, hard mineral fuels- coal,
- raw materials and waste metal materials,
- rock and clay products

b) Mid-logistical segment:

- oil, mineral oil products and gas,
- manure,
- chemical products with no end results - pharmaceutical products,
- iron and steel products.

c) High-logistical segment:

- the rest of the foodstuff, fruit and vegetables,
- vehicles, machines, the rest of the semi- and final products, especially transport merchandise (collected goods and goods in pieces).

3.2. JIT - AN IMPORTANT SECTION OF LOGISTICS

Modern logistical concept in industry with its repeating production is based on consistent implementation of the JIT philosophy (where this is possible). The use of the JIT system is not applicable to all businesses and fields of materials flow. Particularly, the synchronous supply of merchandise is suitable for the goods of high and higher values and with regular delivery. Those were the reasons why the JIT system has come furthest in industry, in particular in the case of car dealers.

The JIT is the slogan of an industrial organisation known from the early 1980s. It could be said that the JIT principle of making business is merely a partial example of a new kind of organisation[3].

JIT - as the principle, the concept, the philosophy or a successful organisational innovation means the flow of goods determined punctually by time. The aim is to move from the traditional »push« type to a »pull« type system. We talk about the production requirements for raw materials, additional and built-in material (synchronous delivery). There is a rule saying: buy or produce only that what is required, when it is required. Assembly line delivery demands 100%-quality of production as well as of carrying out the transport activity.

Successful use of the JIT principle brings about a drastic reduction of capital which is bound in the stored merchandise. We distinguish real (authentic) JIT systems and non-real JIT systems. The non-real systems would still use storehouses close to a producer (buffer storehouses), whereas the original JIT systems do not have storehouses along the logistical line.

Nowadays, there is a saying about how the information stand for the stock itself. The JIT principle is spreading into other activities of the company. Especially interesting is the so-called »Just in Time Development«. It has been spreading more and more into the field of electronics, into the chemical, food industry as well as into the trade business.

4. ORGANISATIONAL ASPECT OF LOGISTICS

Nowadays, logistics has become the driving power of organisational changes. This energy has to be guided towards the development of the organisational and operative system which enables a company to respond to the wishes and needs of the customers. Logistics has »absorbed« the material distribution - place, whereas the marketing is focused on the process of establishing a solid relationship with the customers. Logistically orientated organisations have been turning from functional to process oriented (cross-functional) ones.

Modern times call for a company to be responsive to the needs of individual buyers. Not enough has been done in the field of a concept that would comprise »service response logistics«[4]. The term »responsive« means that the individual demands of buyers rather than a storing-aimed production are taken into consideration. The term »service« underlines that the buyer is after the utility and not the form of a product.

The management of today needs to understand the following strategies:

– how to construct a responsive organisation,

– how to establish a relationship with the buyers of services in such a way that their demands as well as their wishes are met merely on the basis of mutual collaboration.

5. LOGISTICS ACTIVITY SEGMENTATION

Segmentation of logistics activity can be done on the basis of these criteria: range of logistical supply, the kind of merchandise and the geographical distance (i.e. the activity area).

The range of the logistical supply:

- minimal service - transport (valid also for individual appearance) and customs clearance and insurance that go with it,
- medium offer - transport, storing and/or packing,
- maximal offer - complete distribution and/or supply systems (system offer).

The nature of merchandise:

- general cargo,
- special cargo.

Geographical distance (the activity area):

- closer area,
- national markets,
- Euro-multinational markets (i.e. several important European relations and countries),
- global activities.

On the basis of the segmentation the branch portfolio can be presented.

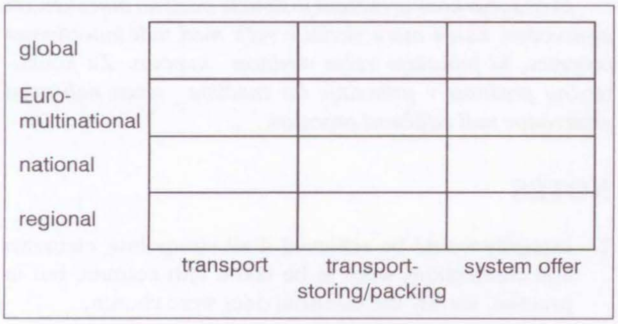

Figure 1: The range of the logistical tender and the geographical distance

As the basis for a more exact segmentation of the logistical market and of the logistical tenders several criteria can be used. Logistical service heptagon (European logistics, p. 164) comprises seven attributive vectors of logistical service which can provide the starting point for segmentation.

There is an important connection between the company size on the one hand and the functional supply of services on the other. A bigger company would have a better-differentiated offers structure.

The field of logistics can be subdivided into Euro-multinational trusts (mega carriers), big and medium sized companies, small companies and individuals, integrators and transport of its own account.

5.1. EURO-MULTINATIONAL COMPANIES

Globalisation of production, supply and sales has encouraged tenders of logistical services to get organised in such a way that their major buyers would have the possibility of »one-stop-shopping«. Characteristic for these companies is the wideness of the range of logistical services and the global way of making business (see Figure 1). This is enabled by a network of their own goods terminals, storehouses and loading and unloading centres. Besides, they tend to control the logistical market in such a way that they invest money into local transport and other companies.

In the field of road transport they would hire contract transport companies (subcontractors) usually called »Owner-Drivers«.

5.2. BIG AND MEDIUM COMPANIES

These types of companies would prevail in the European national market, which as a rule represents the base. They differ by the kind of cargo they deal with -either the general cargo or the special cargo. If they did not have their own branch offices, they would have a bigger number of representations and make a large part of the national market. If we tried to compare them to companies of the same size in bigger countries, we could not do that, since the not so big potential of the inner market of small countries would present a hindrance. Big forwarding agents (speaking about particular countries) have partly developed into Euro-multinational companies and have oriented their activities to individual relations. Some of them possess their own representation offices in other countries or invest capital into local businesses. They tend to carry out transport of special goods mostly on their domestic ground.

A good example of how to work in altered conditions (even in small countries like Slovenia) is the anticipated merge of two giants - the harbour of Koper and Intereuropa of Koper. The aim pursued by the two companies is the merging of activities into a complete offer of logistical services in particular for buyers in Central and Eastern Europe. Their aim is to concentrate the capital due to the need for a globalisation of marketing, thus achieving an increase in capital and market power of both companies[5].

5.3. SMALL COMPANIES AND INDIVIDUALS

Small- and medium-size companies have limited resources and therefore limited opportunities. The owners of vehicles and companies with a few vehicles (1-5) represent the majority of the sector (61% - 86%), though the larger percentage refers to the Mediterranean countries and a smaller percentage to countries like the Netherlands and Germany.

Companies of more than 10 vehicles would not normally represent more than 3-6% of the entire rolling stock of a country, except Holland, where big companies cover a larger percentage (20%).

5.4. TRANSPORT OF ITS OWN ACCOUNT (i.e. TRANSPORT WITHIN THE PRODUCTION AND TRADE COMPANIES)

Beside the so-called forwarding agency of their own account the companies would organise their own transport as well. Supply and dispatch of merchandise is carried out by their own transport capacities (if there are not others who provide the required logistical service).

The problem of their own transport or transport provided by others as well as the rest of the services leads to the following dilemma: »either make or buy«. Beside the costs the following aspects are of great importance: quality, the need for capital, independence and others. What is basically the problem is not so much completely their own transport or transport by others but rather the decision on an optimal mix of the two alternatives[6].

5.5. INTEGRATORS

An example of a new way of making business are the integrators who tend to fully exploit the »new« resources like: information, time and space. The beginnings of their activities can be traced back to the 1980s, starting in the air trade sector.

Integrators activities are based on the »door-to-door« concept, which means that what they offer is a complete and direct transport chain from the consignor to the receiver (for small consignments- packages of up to 30 Kg). Within Europe there is the 24-hour service (overnight-service) with a given guarantee for that time period (time plays an important role since it is usually highly sensitive and highly valuable goods that is at stake).

It is typical of the integrators that they are vertically completely integrated (which means that they carry out all the services by themselves), thus they are able to offer logistical arrangements entirely independently. That gives them the chance to optimise the transport chain.

Integrators of today would have an outspoken growth dynamics. In 1990 they held a 40%-share in the total international air goods traffic.

The following specialised American companies have achieved significant fame: Federal Express, United Parcel Service, DHL and the Australian TNT group. These companies are increasingly spreading their businesses across to Europe, using the experience and means achieved in trading in the United States as well as the present infrastructure in Europe.

6. CONCLUSION

We are presently witnessing changes in the structure of goods, increase of tertiary and quarterly sector and the growing influence of JIT philosophy in the field of production. The competence of today does not involve merely the prices and the quality of products, but rather the processes (services) as well. The key to success in quality improvement is to improve the process itself. That is why benchmarking[7] the logistics processes can bring significant benefits.

Nowadays, logistics has become the driving power of organisational changes. Logistically orientated organisations have been turning from the functional to process oriented ones.

IZVLEČEK

Za sodobno globalno ekonomsko delovanje so značilne spremembe v strukturi blaga, mreženje, tehnično-tehnološki razvoj in vse večja konkurenca, kar zahteva nove rešitve in nov način razmišljanja (sistemsko razmišljanje - teorija sistemov).

Dosedanja konkurenčnost je slonela zlasti na inovativnosti proizvodov, kateri mora slediti v večji meri tudi inovativnost procesov, ki prinašajo večjo vrednost kupcem. Za konkurenčno prednost v prihodnje bo značilna razen odličnosti proizvodov tudi odličnost procesov.

NOTES

1. Integrity would be achieved if all viewpoints, elements and connections were to be taken into account, but in practise, merely the essential ones were chosen.
2. »MARKETING is a wonderful story of a model example of system thinking. It starts off by realising and admitting that as long as there is no product there will be no buyer and vice versa. They can not be set into a cause and effect relationship, but into a relationship of co-independence, one has to work on ALL FRONTS AT THE SAME TIME. Marketing integrates (i.e. puts into a whole, a system) information from designers, constructors, customers, producers, financiers etc.; each of them of the marketing team provides the entrance and response (i.e. feedback) information about products and services«. (Dr. Mulej, Teorije sistemov, p. 28)
3. It is about the process of the optimal co-ordination which can not be achieved without a basic network organisation.
4. Karl B. Manrodt and Frank W. Davis, Jr : The Evolution to Service Response Logistics, International Journal of Physical Distribution & Logistics Management, Volume 22, Number 9,1992
5. In 1998 the port of Koper had 11,2 Billion Tolars income and 2,5 Billion Tolars profit, whereas Intereuropa had

11,3 Billion Tolars of income and 1,3 Billion Tolars of profit.

6. In Europe, transport of its own account has been most powerful in Germany, mostly due to its specific position (also it has been statistically evaluated best). The German transport market was one of the best regulated in Europe. The share of the distance bound transport of its own account in the country's inland amounted in 1986 to up to 50% and the share of the locally bound transport of its own account 60%, whereas the share of the trans-border traffic amounted to around 15% (in 1986). Reasons for a smaller share of the international transport of its own account were formalities at the borders, incompatibility of flows of goods.
7. Benchmarking could be defined as the continuous measurement of the company's products, services, processes and practices against the standards of best competitors and other companies who are recognised as leaders (»best in class« companies -in any industry).

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