LOGISTICS SUPPLY CHAIN AND SUCCESS IN THE MARKET

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Abstract: The essence of management in enterprises is changing. It is typically associated with efforts towards moving and storage of goods within a particular supply chain. The essence of logistics is management of its supply chains i.e. the method of analysing and management of logistics networks. Main goal of supply chain management is to reduce costs and to improve customer service. This affects efficiency and performance of enterprises. Consequently, it impacts on achievement of better competitive position in the market and maintenance of this position. This premise is essential for being successful in the market. Supply chain management allows companies for determination of strategic position and operational efficiency.
Keywords: logistics supply chain, market

In recent years, globalization and technological advances have taken place. In consequence, a particular evolution in the concept of supply chain have occurred. It manifested in a variety of interpretations of supply chain, its goals and participants.
Logistics supply chain can be defined as a philosophy in the field of management of the flow throughout distribution channel, from supplier to final customer. It is also a strategic concept which consists in understanding and management of some activities (from suppliers to customers), adding value to the products which flow through the whole supply chain. This means somehow logistics flow, processing and activities connected with service. All the activities in each sequence of flow must be performed in an efficient and effective way [2.].
While describing logistics supply chain, the following features should be highlighted:
– Subject-related structure,
– Object of flow,
– Goals, activities scope and the areas of cooperation of participating entities [6.].

According to M. Gołembska, 'logistics chain is a warehousing and transport chain, which constitutes technological connection of warehousing and reloading points by means of transport of good as well as organizational and financial coordination of operations, processes, orders and inventory policies for all links within the chain'[4.].
Since the moment when the market of manufacturers became the market of customers, a necessity of fulfilment of a variety of customers' expectations of the level of supply services have appeared. The manufacturers, who do not want meeting customers' expectations to cause rising costs over profits, created common strategy of customer service. In consideration of the fact that success in logistical supply chain is associated with identification and determination of a particular customer service quality, all the conditionings and processes that accompany customers during shopping should also be understood. Therefore, logistics supply chain management should be synchronized with a marketing

concept of demand management since recognition of procedures is the basis for marketing as a wholeness of decisions and some activities connected with demand formation.

M. Christopher presents supply chain as '[...] a network of organizations involved, through connections with suppliers and recipients, in different processes and activities which form value, in the form of products and services delivered to final consumers' [1.].

According to Witkowski, 'an essence of contemporary supply chain is a decision process connected with synchronization of physical, informational and decisive flow and supply streams which flow between the participants in order to achieve competitive advantage and generation of value added advantageous for all its links, customers and other interested entities' [6.].

In consideration of the market success in enterprises in the aspect of formation of supply chain, customer service, as a very important form of competition, should not be neglected. Fundamental elements and market indexes in companies include order lead time, nature of product, relationship with lost sales, relationship with transport.

Lead time has direct impact on inventory level. The lower lead time cycle, the lower need for stock. Lead time is a specific time from customer's placing an order until the moment when they get the goods. Lead time includes 'time of forwarding of the order, time of order processing, preparation of the ordered goods and time of transport of these goods to customers.[…] Longer lead time calls for collecting higher stock. Thus, if an enterprise can improve customer service quality by shortening the cycle of order execution, it will be capable of satisfying the demand communicated by the customers with lower inventory. Such a cost reduction might be as critical as price reduction' [2.].

Great impact on importance of customer service is from substitutability of products. If products are similar and its stock is depleted, customers can be satisfied by products from competitors. Products which have their substitutes are varied. The more substitutable the product, the higher customer service level.

The customer-oriented strategy manifests itself also in aiming for the development of the last links/cells in the delivery chain and in the development of the idea of reverse logistics. The greater and the better chances for the customer to return the product the greater the competitiveness of the company.

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Similarly to the relationship with stock in transport, the value by which transport costs increased is compared to the costs of lost sales. Frequent supplies of goods in smaller quantities might be the reason for higher transport costs.

'Creation of proper relationships between the chain links through formation and satisfying of the demand, requires from suppliers recognition and understanding of:

– needs and goals for which the delivered products are used,
– the procedures of formation and control of purchased stock used by customers,
– manufacturing technology or sales techniques which determine purchased quantities and frequency,
– conditionings, procedures and standards used during making decisions on purchase,
– method for decisions on purchase. […]

In spite of the characterized differences in definition of supply chain management, there is always a need for preparation and acceptance, by all supply chain participants, fundamental principles of its functioning and development. During determination of these rules, essential factors include:

– openness and trust, required during giving supply chain participants access to data concerning demand, sales forecast, production schedules, orders and other information connected with physical flow of products and customer behaviour patterns,
– strategic cooperation, i.e. co-planning and realization of marketing and logistics strategies for the chain, with determination of the place and role in each chain link in distribution channels, processes of product manufacturing, customer service and tasks during promotional activities,
– leadership, through establishment of central flow coordinator, i.e. link which forms the main initiator of the undertaken actions, controlling their performance, especially in order to elminate repeated and uncoordinated decisions connected with formation of products, transport and warehouse activities and execution of orders,
– reciprocity, through agreement on the rules for risk division and possible benefits resulting from joint initiatives and departure from the practice of transferring of inventory costs on suppliers or recipients towards monitoring and optimization of stock throughout supply chain' [6.].

Principles of supply chain management play significant role in settlement of disputes between manufacturers, recipients and service companies. Implementation of these principles into the strategies provides the counterbalance for the reasons for conflicts as well as unbalanced bargaining power and competitiveness of goals. Table No. 1 presents features of supply chain management as compared to conventional management system.

Table 1. Features of supply chain management

Feature	**Concept**	
	Conventional management	**Supply Chain Management**
Cost reduction	Minimization on enterprise scale	Minimization on supply chain scale
Inventory Management	Optimization on enterprise scale	Optimization on supply chain scale
Flow of stock	Interrupting/ monitored inside the enterprise	continuous/ monitored throught the supply chain
Information	Controlled by the enterprise	Access to joint information
Planning	Individual	Joint
Decision and actions	Initiated and controlled by management	Initiated and controlled by central coordinator in supply chain
Risk and benefits	Individual	Joint
Contacts between partners	Between the area of purchase and supply	Between different functional areas in companies at different levels of management

Source: self study on the basis of J. Witkowski, Zarządzanie łańcuchem dostaw. Koncepcje, procedury, doświadczenia, PWE, Warsaw 2003,

Another division of supply chain might be according to external or internal nature. External logistics chain is formed by independent companies which have common goal. Internal chain is typical of functional units in enterprises (in the case of functional organization) or functional units and teams (process organization) striving for achievement of the goal determined by the enterprise [3.].

In order to make a success, enterprise should determine strategic object-related goals for supply chain. These goals include:

- Recognition of final customer requirements in terms of customer service level,
- Making decisions on the points of supply chain where stock should be located and the level of this stock,
- Development of suitable policies and procedures of management of supply chain as an integrated wholeness.

First goal seems to be obvious, however, sometimes it is neglected during making economic decisions. Demand communicated by final customers is like a magnet which pulls stock through the channel. Manufacturing enterprises enjoying success can determine who their customers are and what they expect and then coordinate the flow of stock both in their businesses and through the channel.

Another goal focuses on recognition, connected with fundamental principle of operational logistics management, of which, where and how much of stock is necessary in order to meet customer's expectations and to ensure the accepted level of costs. Traditional methods of management will typically involve attempts to minimize own inventory through moving it backwards – to the suppliers or forward in supply chain – to distributors. In supply chain management it is possible to optimize costs incurred by the manufacturer, however, this solution is suboptimal in relation to the costs of the whole channel, which, in consequence, brings adverse effect to manufacturers.

Third goal indicates that there should be a mechanism of coordination in the supply chain, comprising particular policies and procedures. Meeting this goal will be possible through formation of suitable organizational structure of logistics at producers and dealers in lower part of supply chain' [2.].

The abovementioned goals must be interrelated in order for the enterprise to make the expected success. The most often, the goals of supply chain management in logistics approach are presented as:

- 'minimization of total costs of flow of products and information at maintaining of the required level of supply-related customer service ('savings logistics'),
- Ensuring the shortest possibly lead time and highest possibly reliability, frequency and flexibility of supplies at the assumed costs of flow ('efficiency logistics'),
- Optimization of inventory level on the scale of supply chain with flexible adaptation to preferences of supply services in individual market segments' [6.].

In order for supply chain to become a premise for market success in the enterprise, it should be characterized by the following features: transparency, stock, product price with costs of unloading, division of risk, planning at the level of supply chain and the alliances.

'One of the main tasks of supply chain management is to monitor stock throughout the supply chain and limitation of uncertainty which is the reason for creation of safety stock or implementation of such suboptimal solutions in this pipeline as purchase in advance.[…]

Inventory level must be coordinated throughout the supply chain in order to reduce costs and expenditures to minimum. In the past, stock was typically pushed forwards or backwards in logistics channel, depending on who was the strongest within the supply chain.[…]

Optimization of supply chain occurs through focus on final assessment of the product with costs of unloading. This price comprises total cost which was actually incurred by the customer in the place where the product will be consumed or used, including the costs of purchase of material, delivery costs, inventory costs and others. The enterprises have accustomed to focus on their internal costs and might not be aware of the fact that their commercial relationships with suppliers and customers impact on final price of the products

with unloading costs. Lack of suitable information for suppliers about delivery time or forcing customers to purchase of large amounts of goods might cause increased inventory costs. They will then be transferred on another links through logistics pipeline and, eventually, on final consumer [5.].
Sharing information will remain a touchy problem, particularly in cases where suppliers or customers within logistics channel also are in contact with manufacturers' competitors. Some caution and reason are indispensable, however, share of information are a key factor for success. Another feature which might cause anxiety is the risk, since supply chain requires taking common risk. One of the concepts of risk share with logistics service-providers assumes guaranteeing them certain turnover within a particular time period, which lowers risk of bankruptcy in these enterprises. Another method or a concept of risk share is joint investing in chain assets' [2.].
The listed factors and features of supply chain are compared, with conventional logistics systems oriented to single enterprise, in Table 2.

Table 2. Comparison of main conventional features of logistics systems with supply chain

Factor	**Conventional System**	**Supply Chain**
Inventory management	in single enterprise	Coordination of actions in pipeline, continuous/transparent
Flow of stock	Intermittent	continuous/transparent
Costs	Minimized within the enterprise	Product price with costs of unloading
Information	Controlled by the enterprise	joint /shared
Risk	Focused on the enterprise	joint /shared
Planning	Oriented to the enterprise	Supply chain teams
Relationships between the organizations	The enterprise oriented to low costs	Partnership oriented to product price with costs of unloading

Source: self study on the basis of J. J. Coyle, E. J. Bardi, C.J. Langley Jr., Zarządzanie logistyczne, PWE, Warsaw 2002, s.30

The process of formation of supply chain is an essential premise for enterprises to be successful.
Success in the enterprises depend not only on the fact if each department does their tasks correctly, but also on how well coordinated are activities performed by different departments. Among the elements which enhance efficiency of management, one can list e.g. the process of development of new products – all the activities concerning identification, research and development and launching new products should be carried out according to the schedules, quality standards and levels of costs. Supply chain encompasses all the phases of creation and generating of logistics values – from the locations where raw materials are purchased, through production, until final consumer, in order to offer suitable goods in right place and time, in right quantity, with right quality, at reasonable costs, using modern information technologies.
Technological and electronic revolution which took place in last decade of the 20th century, entirely changed the methods of cooperation between the suppliers and customers and also other links in conventional supply chains. In order to keep pace with dynamically developing markets and to achieve a success in the market, the contemporary enterprises must search for opportunities of gaining competitive advantage outside their own organizations. Individual effort often turns out to be insufficient to fully satisfy customer's expectations. In order to meet these expectations, companies are forced to implement joint initiatives with their business partners.

Since the time when manufacturers' market became a customers' market, a necessity to fulfil a variety of consumer expectations of customer service level appeared. The manufacturers, who want to be successful in the market, must meet customer expectations so that to avoid increase in costs over profits. Therefore, in order to make a market success, logistics supply chain management should be synchronized with marketing concept of demand management, since recognition of procedures during purchasing is the basis of marketing as a wholeness of decision and particular activities connected with demand generation.

References

[1.] CHRISTOPHER M.: **Logistyka i zarządzanie łańcuchem dostaw. Strategie obniżki kosztów i poprawny poziom obsługi** (Logistics and Supply Chain Management. Strategies of Cost Reductions and Proper Level of Service). Polskie Centrum Doradztwa Logistycznego, Warsaw 2000, p. 14.

[2.] COYLE J. J., BARDI E. J., LANGLEY JR. C.J.: **Zarządzanie logistyczne** (Logistics Management), PWE, Warsaw 2002, p. 30 ,31-33, 33-34, 88.

[3.] FECHNER I.: **Zarządzanie łańcuchem dostaw** (Supply Chain Management). Wyższa Szkoła Logistyki, Poznań 2007, p. 14-17.

[4.] GOŁEMBSKA E.: **Kompedium wiedzy o logistyce** (Handbook of Logistics Science). Wydawnictwo Naukowe PWN, Warsaw – Poznań 2001, s19.

[5.] Krzywda J.: **Przesłanki i możliwości zastosowania koncepcji logistyki odwrotnej w zagospodarowaniu stałych odpadów komunalnych. Niepublikowana rozprawa doktorska.** (Conditions and possibilities of implementing the reverse logistics concept in recycling municipal solid waste. Unpublished doctoral dissertation.) **(Politechnika Częstochowska, Wydział Zarządzania), Czestochowa, 2008, p. 45.**

[6.] NOWAKOWSKA-GRUNT Joanna, **The Benchmarking as a method of improvement of efficiency the logistic operation of enterprise**. W. The International Journal of Transport & Logistics, Kosice 2007, ISSN 1451-107X

[7.] WITKOWSKI J.: **Zarządzanie łańcuchem dostaw. Koncepcje, procedury, doświadczenia** (Supply Chain Management. Concepts, Procedures, Practice)**,** PWE, Warsaw 2003, p. 11, 23, 29-32