

CONCEPT, PRINCIPLES AND STAGES OF SUPPLY CHAIN MANAGEMENT

ANGELINA PETKEVICH, JOHN BANZEKULIVAHO
Polotsk State University, Belarus

The factors causing the emergence of the concept of supply chain management are described in the article. Principles that achieve the best level of satisfaction of the needs and demands of consumers, and management processes in the supply chain are revealed. The basic stages of the supply chain management are described.

As a result of the international economic integration a convergence of the countries based on the development of sustainable business linkages and inter-state division of labor takes place. Interaction of economies at different levels and in different forms is constantly evolving, that usually leads to political rapprochement. The integration process is implemented at the micro level - through the interaction of individual economic entities of the countries and at the international level - through the integration of the national economies of individual states that ultimately leads to an agreement of joint foreign policy and foreign economic activity. In this context, supply chain management is a tool to facilitate the process of integration activities as economic entities, and individual states, since it brings together producers and consumers that are in the same or different countries. In addition, supply chain management contributes to the close cooperation between business entities, acceleration of innovation processes and development of new markets to sell their products (services).

The economic efficiency of the supply chain, on the one hand is characterized by stability, which is understood as the immutability of its targets. On the other hand, for the business entities in the supply chain the problem of creating of a mechanism of restructuring, accompanied by a change in their basic parameters is very urgent. Its solution allows you to control and coordinate the execution of all logistics functions in the supply chain [1].

Modern understanding of the economic efficiency of the supply chain is their design so that they are characterized by a high level of profitability and sustainability. Currently, participants in the supply chain are aware of the need of both internal integration of flow processes and the coordination between all business units (suppliers, intermediaries, consumers, and others) in order to provide customer service to a higher level and at a lower cost.

The emergence of supply chain management concept at the end of the twentieth century was determined by a number of factors. First, after the energy crisis of the 1970s a sharp slowdown in the world economy required efforts from the specialists in the development of marketing, logistics and other management concepts and tools to meet the new conditions of a stagnating global economy. The changes affected the very nature of competition. The notion of "competitive strategy" considered as a zero-sum game appeared (expansion of the share of one company is thought as reducing the proportion of the other). Secondly, in the late 70's and early 80's in the XX century in companies the role of logistics as an effective tool to reduce transaction costs increased. Subsequently, the logistics became the ideological basis for the establishment of supply chain management concept, which, in fact, was originally viewed as a strategic inter-company logistics. On practical level before 1980 we used some ideas of integrated logistics and supply chain management. Third, advances in related disciplines are at a sufficient level of development; a clear concept of supply chain management was formed. Fourth, the technology in this period reached a level where on the one hand, it made possible to coordinate the complex processes efficiently, handle large data sets, and most importantly, it made an opportunity to almost instant and free communication (fax, electronic data interchange). On the other hand, the production of technologically sophisticated goods required the coordination of a growing number of independent companies specializing in the individual components [2-4].

In logistics it is usually said about four scientific areas that have had the greatest impact on supply chain management: systems theory, game theory, transaction cost theory, the theory of inter-organizational relationships and industrial networks [5, 6].

Systems theory appeared in physics and biology in 1950, but it was adapted very quickly in the field of management by researchers to explain the processes, the behavior of individual agents, firms and the economic system as a whole. Systems theory views the world through the prism of aggregate resources and processes that exist to perform certain "superchain". System approach is the key main distinguishing characteristic of supply chain management concept.

Game theory was developed by J. Von Neumann and O.Morgenstern. Its main goal is study and explanation of the optimization of economic decisions involving more than one person (for example, customer and supplier or multiple suppliers). Game theory has become a useful theoretical tool for analyzing and making

decisions about managing inventory, warehouse, and the choice of location of production, pricing, building strategic alliances and partnerships.

The emergence of the theory of transaction costs is associated with the classical work of Ronald Coase and putting the question of the nature of the company and the boundaries of firms in 1937. The theory of transaction costs, in the development of which O. Williamson made a significant contribution in the 70s of the XX century, makes it possible to understand the economic nature of the relationship between the companies represented in the supply chain.

A. Van de Ven and George Walker made the main contribution to the study of inter-organizational relations and the theory of industrial networks. Their research largely advanced the understanding of the nature of the relationship between the companies. For example, the authors offered the answer to the question about the causes of relationship: resource dependence in both the short and long-term makes the company to build relationships, minimizing, thus, transaction costs. Research of inter-organizational relations and the theory of industrial networks have become one of the dominant in logistics and marketing at the turn of the XXI century, which gave rise to the concept of supply chain management, relationship marketing and network marketing approach.

In logistics there are three main reasons relating to global markets, and technologies that have changed the views of companies on supply chain management problems:

1. The ever-increasing demands and requirements of consumers, caused by global competition and the affecting factors such as cost, quality of products (services), delivery to the consumer, the cycle time, used technology, etc. ;

2. Formation and the wide recognition of the importance of inter-organizational relations of cooperation at a higher level;

3. The information revolution.

Each of these factors contributed to the formation of the approach known as values formation system; it is a set of interrelated organizations, resources and knowledge streams involved in creating and delivering value to end users. Values formation system combines the action undertaken in the supply chain, from the identification of customer needs, the development of specific products (services), manufacturing (operations), to the distribution, including providers of the first, second and third level.

The aim of the values formation system is such positioning of organizations in the supply chain that allows them to provide the highest levels of customer satisfaction and customer value with effective use of competencies of all organizations involved in the supply chain. Successful implementations of Supply Chain Management concept, in terms of economic growth, allow to allocate specific behaviour patterns.

To achieve the best level of satisfaction of needs and consumer wants and process management in the supply chain, the following principles should be considered:

- segmentation is realized taking into account the focus on customer needs for their maintenance, including specific groups of customers;

- adapting the chain of creation of material assets and goods – it takes into account the service requirements and profitability of all segments;

- requirements planning along the entire supply chain – is carried out in order to ensure optimum allocation of resources;

- product differentiation is made as we approach the customers;

- strategic management of supply sources – it pursues its goal of reducing the total cost of materials and services;

- development of strategies for implementing technology – is intended for the entire supply chain, providing a multi-stage decision-making with a clear vision of the flows of materials, goods, services and information;

- definition of variable indicators in the supply chain – is aimed at ensuring efficient and good service of end-users [7].

Supply Chain Management encompasses the entire raw material procurement cycle, production and distribution of finished products, and includes the following main stages: planning, procurement, manufacturing, delivery and returns.

As part of the planning phase the sources of supply are investigated, a synthesis and prioritization of consumer demand are made, inventories are planned, the requirements for the distribution system, as well as the volume of production, raw materials supplies / materials and finished products are defined.

At the stage of procurement key procurement controls are identified, evaluation and selection of suppliers, supply chain quality control, contracting with suppliers are carried out. It also includes the processes associated with obtaining materials and posting.

Production, implementation and management of the structural elements related to the control of technological change, management of production capacity, production cycle, product quality, compliance with

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production shift schedules, etc are directly related to the production stage. Specific procedures for production, such as the proper production procedures and cycles, quality control, packaging, storage and output (intra-factory logistics) are also defined here.

Delivery Stage is related to the processes, mainly related to order management, inventory and transportation.

In the context of the stage of return the structural elements of the return of goods (defective, excessive, requiring repair), both on the production and on the delivery are determined. The definition of the product state, its location, the request for return authorization, drafting repayment schedule, aimed at the destruction and recycling are carried out. These processes also include aftersales service.

Thus, in summary it should be noted that the effectiveness of supply chain management is made up of the market and intra-effects, as well as benefits for the supplier. The market effect of supply chain management is that it allows achieving long-term competitive advantage arising from the ability of chain participants to concentrate on core activities and reducing market risks. The consistent focus on the processes of consumers and their desires will cause an opportunity to improve the quality of their services and meet their needs. Coordination of supply chain management will reduce order fulfillment and delivery time, increase the level of trust and loyalty of consumers. Intercompany effect is reflected in the fact that, thanks to optimized projected needs, supported by information and technical base, as well as the ongoing exchange of information about the powers and emerging bottlenecks, supply chain management system will create the transparency of information on the number of stocks, sales volumes, timing of orders, etc. This will allow to reduce inventory significantly, improve performance and infrastructure efficiency, optimize size batches deliveries, improve service, and finally flow control efficiency throughout the supply chain length. As part of supply chain management with focus on consumers and using information technology it will open up new markets, which will enable providers to expand the existing boundaries of the market and it will be profitable for them.

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