COURSE BOOK



## Global Supply Chain Management

**MWCH01**

### Learning Objectives

###### Introduction **9**



A significant consequence of the intensification of international economic relationships created by so-called “globalization” is reflected in the fact that competitive processes are now being encountered less between individual companies but are becoming a more prevalent occurrence between so-called “global value chains” or “supply chains”.

The **Global Supply Chain Management** course imparts knowledge about the goals and motives behind the development of globally operating value-creation networks. Systematic typologies, strategically relevant issues, and configuration options in the area of Supply Chain Management (SCM) are explained and developed in order to convey the magnitude and complexity of the subject. This provides an opportunity to present the particularly pertinent instrumental categories of SCM.

During the course, you will use this foundation to learn about the modes of action and problem areas associated with cross-company (global) value-creation networks, and you will obtain answers to questions on common strategic elements.



# Unit 1

## Motives and Effects of Logistical Value-Added Networks

##### STUDY GOALS

After completing this unit, you will know ...

… why Supply Chain Management is becoming increasingly important.

… how Supply Chain Management is defined.

… how to distinct Supply Chain Management from Logistics Management.

... which motives and effects exist in logistical value-creation networks in the context of Supply Chain Management.

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### Motives and Effects of Logistical Value-Added Networks

#### Introduction

Increasingly globalized and liberalized markets are experiencing a rapid rise in competitive pressure. Harmonization and deregulation activities are being implemented across the EU and globally, in order to relieve the strain on national budgets when times are difficult. A further reason for this increase is that fewer regulations help promote competition, and companies work more innovatively in order to maintain their market position. These innovations, in turn, result in an increased willingness to invest within companies as well as in the creation of new jobs and more efficient working methods.

A simultaneous increase in customer power is also experienced, as the opening of new markets offers greater choice and more purchasing alternatives. Product life cycles are shrinking due to rapid technological advances and increased market saturation. New forms of information technology are contributing to the increasing creation of virtual marketplaces, with even smallest providers selling their products via online shops. Customer requirements are increasing at the same time, which can again be attributed to customers being better informed and organized through new media.

The development of global strategies is essential in enabling producers and service providers to meet increasing consumer requirements. In particular, this requires intensive collaboration, which can be achieved through the creation of intelligent logistics processes. This means the activities performed by production and/or sales companies are linked, and suppliers and customers are incorporated into their systems. Cost and quality indicators must be kept up-to-date and remain transparent at all times in these systems, in order to ensure efficient process control.

This calls for a holistic logistics management system that goes beyond the mere optimization of transport routes, which is precisely where Supply Chain Management comes into play: a basic structure is developed in process form, which not only encompasses the actual transport routes, but also covers supply and disposal strategies and provides a uniform controlling system for all participants in the process chain (Thaler 2011).

Strategies and principles relating to Supply Chain Management were developed by consultants Jones and Houlihan as early as the 1980s (1985), with practical implementation having been influenced by Oliver and Webber (1992). As in the case of theory and practice, the value system applied to SCM was also shaped by numerous consultants, scientists, and managers, predominantly from the USA and England, in the 1980s and 1990s.

However, any form of uniform “schooling” has not existed. The definition of Supply Chain Management varies significantly across specialist literature. Towill regards it as “a chain of systems for order processing” (1996, p. 15 f.), while Fisher describes it as “a link to the customer that connects production with end customers, i.e., a sales channel” (1997, p. 105 f.) According to Harrington, SCM is a “map showing the combined flow of material and information”

Motives and Effects of Logistical Value-Added Networks

(1995, p. 30f.) Stevens (1989) states that “The scope of the supply chain begins with the source of supply and ends at the point of consumption” (p. 3).

The approach adopted by Ellram and Cooper, which states that SCM describes the linking of value-adding processes, has gained wide acceptance (Wildemann 2010). In Germany, the first production companies began to implement Supply Chain Management in the early 1990s.

In recent years, the number of surveys, analyses, and academic publications focused on SCM has risen significantly which demonstrates the increasing importance of SCM..Today, Supply Chain Management is an important concept of practical business administration.

#### What Does Supply Chain Management Mean?

Supply Chain Management means that integrated logistical chains (the flow of money, information, and material) are developed, managed, controlled, and monitored across the entire value-creation process. This extends from the extraction of raw material and production activities to the various refinement stages and delivery to the end consumer. For this reason, Supply Chain Management is also referred to as the theory of value chains or value chain management.

Supply Chain Management means that processes are configured across a multi-tier logistics network which ensures that end customers or points of sale are optimally supplied with goods, products, or services. In addition to physical supply, Supply Chain Management also ensures the integration of management processes for the related flow of money and information.

A regular exchange of (planned) data between all participants in the process chain ensures that the procurement, production, and sales plans generated within the different process stages are coordinated on an ongoing basis. This allows any problems to be tracked down immediately and enables the introduction of appropriate countermeasures (see the following figure).

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Description automatically generated

#### What is Logistics Management?

Logistics Management is concerned with the transport of goods as well as the auxiliary and operating materials, raw materials, packaging materials, and all other associated physical goods required for production. It serves to ensure the core task of logistics, which is traditionally defined in accordance with Plowman’s “Seven Rights definition”:

“Logistics means ensuring the availability of the right goods, in the right amount, in the right condition, at the right place, at the right time, for the right customer, at the right costs” (Plowman 1964 quotedfrom Chankov et al. 2014, p. 596).

The key basis for fulfilling this task is a process-oriented logistics chain that is aligned with the corporate strategy.

Strategic Logistics Management is used, where necessary, to make structural changes to process flows for the purpose of optimizing the process chain and thereby actively ensuring the company’s success.

Motives and Effects of Logistical Value-Added networks

Strategic Logistics Management undertakes planning and forecasting with the aim of ensuring that strategic corporate goals are achieved in the medium and long term, while Operational Logistics Management ensures that the physical implementation of logistics processes runs smoothly, logistics costs remain within the expected range, and coherent quality indicators are available. The aim is to achieve a high level of customer satisfaction by delivering on time and in the right quantity.

Distinguishing Logistics Management from Supply Chain Management

Logistics Management differs from Supply Chain Management in that it deals with the tasks performed by a logistics coordinator (shipping manager, manager of a business unit in the areas of procurement or distribution, logistics manager, or other comparable roles) as well as logistical situations. Supply Chain Management, however, additionally incorporates a holistic view of the company – an element that is crucial and far exceeds logistical tasks.

Monitoring the interfaces that exist within logistics is a vital component of Supply Chain Management. These interfaces can include production, sales, purchasing, human resources, or even controlling. Interfaces within the logistics chain are also a key focus area, however, and refer to all discontinuities in the flow of material. These discontinuities entail interruptions of the material flow and incur costs since they require certain actions. These actions can include storage to bridge the time until the respective product/raw material is required or transport, i.e., the bridging of space, in order to transport the goods to the required place.

These actions that become necessary as the material flow is disrupted and segmented by interfaces facilitate internal and external division of labor. The exchange of services and goods via interfaces must be initiated, agreed upon, managed, controlled, and, where applicable, adjusted for the future.

#### Service Providers in the Supply Chain

In order to assess the performance of companies in the logistics sector (logistics provider) with regard to their role in Logistics Management or Supply Chain Management, they are divided into different categories, ranging from first-party to fifth-party logistics providers. This categorization is described below.

1PL – First-Party Logistics Provider

This term dates back to the 1970s when manufacturing companies undertook services themselves, under the umbrella of Transport, Transshipment, and Warehousing (TTW), hiring their own commercial staff for this purpose. Many companies set up a dedicated vehicle fleet and single-handedly transported the goods they produced on national and international roads. If other modes of transport were required, the transport would be outsourced, i.e., undertaken by a transport service provider (railway, shipping company, airline).

2PL – Second-Party Logistics Provider

Lean Management Lean Management is concerned with the design of efficient value-added chains in the production and distribution of industrially manufactured

goods.

Cost-Benefit Sharing

(CBS)

These are procedures for implementing process change projects in

networks.

In the 1980s and 1990s, many companies eliminated their dedicated vehicle fleets, minimized the number of commercial staff, and outsourced TTW services to freight carriers, warehouse companies, package delivery companies, and freight forwarding companies as part of the **Lean Management** program, in a bid to reduce costs.

3PL – Third-Party Logistics Provider

The term 3PL (also “system service provider” or “contract logistics provider”) describes a company that offers transport services as its core area of expertise (formerly 2PL) and has expanded its service portfolio to offer customers additional services (also known as “value-added services”) that are either directly or indirectly related to the actual transport. These services include document processing for cross-border transportation, warehouse management (picking, processing of customer orders, inventory turnover and management), consignment tracking and tracing, or assisting with logistics planning.

This type of cooperation usually involves long-term contractual commitments in which 3PL providers have considerable leeway and assume responsibility for parts of the value-added chain.

4PL – Fourth-Party Logistics Provider

This term was coined by Accenture (formerly Anderson Consulting) in the mid-1990s and refers to a network integrator operating on a neutral level, who coordinates the capacities of the individual partners involved in Supply Chain Management, decides on the use of external service providers, and issues them with corresponding orders. The 4PL uses transport, warehousing, and information technology as needed by the members of the supply chain and is additionally responsible for **Cost-Benefit Sharing among those**.

If no external service provider is appointed as 4PL, the associated tasks described are undertaken by a dominant partner in the supply chain (manufacturer or retailer, for example). In such cases, the service provider is referred to as a system integrator.

Motives and Effects of Logistical Value-Added Networks

5PL – Fifth-Party Logistics Provider

The approach taken by 5PLs is to expand and coordinate individual supply chains in order to develop them into supply networks. 5PLs often emerge from e-commerce business and offer their customers a strategic logistics approach, in which they also take on the conceptual development of the network.

To assist them in this conceptual development, these service providers draw on the latest technologies in the field of simulation and forecasting tools, which not only serve to determine the flow of goods but also the utilization of existing capacities. All relevant points in the value-added chain can be recorded, from the simulation of costs and vehicle schedules through to slot allocations (time of arrival and/or delivery), and quality measurements.

While the general assumption is that Logistics Management is predominantly employed among first-part to third-party logistics providers, the Supply Chain Management approach is integrated into conceptual developments from 4PL onwards. The value-added chain is viewed holistically with the aim of reducing costs associated with the flow of goods, money, and information – preferably through the generation of synergy effects – and expediting processing.

#### The Importance of Supply Chain Management

For many companies, implementing Supply Chain Management on a practical level is problematic, with differences often being encountered between theoretical approach and practical implementation. Although the Supply Chain Management approach is often equated with Supplier Management in everyday language, the latter is, in fact, only a very small part of the value-added chain that needs to be considered.

The process orientation of SCM can lead to conflicts with existing operational or function-oriented organizational structures, which, in many cases, are not directly involved in the SCM process and, therefore, do not view this as a requirement, but must consistently support changes in corporate culture or strategic orientation that are attributable to SCM. It is essential that change effected by Supply Chain Management within the company is appropriately coordinated and communicated so that the individual requirements can be implemented.

Supply Chain Management has played an increasingly important role since the 1990s. According to studies conducted by the University of St. Gallen (Institute of Technology Management) (Corsten/Gabriel 2004), medium-sized companies are also convinced of the necessity and benefits of cross-company optimization along the entire value-added chain as a means of remaining competitive and continuing to achieve commercial success in the future.

According to the study, more than 70 % of the companies with more than 2,000 employees already have an interdisciplinary team responsible for optimizing the value-added chain. In addition, almost 60 % of medium-sized companies in Germany with fewer than 500 employees have nominated responsible employees whose tasks include Supply Chain Management.

**Summary**

The development of global strategies is essential to enable producers and service providers to meet increasing consumer requirements. Globalization and growing customer power are rendering optimal logistics increasingly important as a selling point and customer retention tool.

The use of Supply Chain Management as a control instrument for optimizing the value-added chain leads to potential savings through synergy effects and optimization measures at interfaces as well as through the harmonization and coordination of processes across corporate boundaries.

It is necessary to create a "win-win situation" that motivates all partners in a value chain to cooperate permanently within the framework of supply chain management.

This is the essential prerequisite for tapping long-term synergy effects and the savings potentials that are aimed for, and for improving customer satisfaction, which is essential for the long-term success of the company.