

# Chapter 19

## Logistics Services in the 21st Century: Supply Chain Integration and Service Architecture

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### **ABSTRACT**

*Due the cross-functional character of logistics tasks and the cross-organizational structure of most logistics chains, the logistics service industry is strongly affected by business dynamics. Since the 1950s, this industry has experienced a variety of changes; While logistics was traditionally concerned with the fulfilment of functions like transportation and warehousing, modern logistics service offerings also encompass services like network design and carbon footprint assessment. But not just the scope of logistics services has changed. Additionally logistics business models developed from 1PL to 4PL, indicating a shift from the provision of execution tasks to tactical tasks and from fragmented logistics solutions to integrative logistics solutions for complete logistics chains. As a consequence, logistics service providers at the beginning of the 21<sup>st</sup> century have many options to configure their service offerings. But which options exist to comply with the requirements in a modern competition being fought supply chain versus supply chain rather than firm versus firm? After analyzing the dynamics in the logistics service industry and the importance of logistics for an effective and efficient supply chain management, this chapter will focus on options how logistics service providers can construct single logistics services (service architecture), their logistics service program (service program architecture) and their appearance on the market (service provider architecture) in order to fulfil their role within today's supply chains and to improve supply chain performance.*

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**INTRODUCTION: DYNAMICS IN THE LOGISTICS SERVICES INDUSTRY**

The logistics service industry – in charge of managing the flows of products (goods as well as services) and the related information involved in the creation, transformation and delivery of value between the point of origin to the point of consumption – receives an increasing recognition as contributor to achieve competitive advantages in today’s business environment. Whenever companies decide to extend, to reduce, to outsource or to integrate their operations, also logistics operations are affected. Each type of decision mentioned changes the structure of an internal value chain and/or external supply chain and consequently also the requirements on the logistics services which are responsible for the effective and efficient management of flows within chains.

Nowadays statements can increasingly be found which stress that modern competition is being fought chain versus chain rather than company versus company, and that these chains need to provide competitive total value across a balanced set of cost, quality, speed, responsiveness and also environmental as well as social aspects (Loren 2005, Ketchen & Hult 2007, Heizer & Render 2008) – these two latter aspects influence

the logistics service industry at large.

In this chapter we will provide insights into options for the logistics service industry to fulfill their role within today’s supply chains and to improve supply chain performance by focusing on the architecture of the services, the service programs and the organizational forms of logistics service providers.

**Logistics Services: Definition, Scope and Characteristics**

Services are intangible economic goods in form of offered promises, which concretization require the integration of external factors into the provision process and leads to tangible and/or intangible results (Thiell 2008). Linking this general definition of services with the content of logistics tasks, the logistics service provision process consists of all activities concerned with the effective and efficient management of the flows of products and related information between the point of origin and the point of consumption in order to meet or exceed customers’ requirements.

These activities are provided in-house (e.g. production logistics), by governmental institutions (e.g. customs, security) and to a large extent by specialized services companies to consumers as

*Table 1. Logistics business services*

Service Category (functional service groups)		Services, e.g.
Traditional Categories	Transportation	<ul style="list-style-type: none"> <li>• Inbound and Outbound Transportation of Products</li> <li>• Reverse Transportation</li> </ul>
	Storage	<ul style="list-style-type: none"> <li>• Stock Keeping</li> <li>• Load and Unload</li> </ul>
	Handling	<ul style="list-style-type: none"> <li>• Cross Docking</li> <li>• Break Bulking</li> </ul>
	Order Processing	<ul style="list-style-type: none"> <li>• Tracking &amp; Tracing</li> <li>• Customs Clearance</li> </ul>
Non-traditional Categories	Order Finishing	<ul style="list-style-type: none"> <li>• Labeling</li> <li>• Manufacturing Postponement</li> </ul>
	Consulting	<ul style="list-style-type: none"> <li>• Network Design</li> <li>• Process Re-engineering</li> </ul>

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