

# Chapter 11

## Optimal Strategy Selection in a Supply Chain

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### ABSTRACT

*Uncertainties and unpredictability in the market force companies to develop strategies which enable them to perform better than their competitors. Developing proper strategies for a supply chain is crucial. Strategies are affected by the nature of the firm's products or services, customer preferences, operations, process design of the firm, etc. Companies should form adaptive supply chain strategies which enable them to be resilient and flexible enough in the flow of materials, products, information, and money along the supply chain. There are many studies about supply chain management and supplier selection in the literature. However, the number of studies about the selection of the right supply chain strategy are very limited. This study presents the components which help to constitute a supply chain strategy and classify the supply chain strategies described in the literature. Lastly, it offers a strategy and criteria matrix which can be used as a road map for selecting the most appropriate supply chain strategy by firms.*

### INTRODUCTION

All organizations operating in service or manufacturing industries are members of a supply chain. Firm and industry characteristics affect the design and management of supply chains. The nature of the firm's products or services, customer preferences, the operations and process design of the firm determine the structure of the supply chain. Any supply chain should be strategically planned to gain competitive advantage in the market (Magutu et al., 2015).

The supply chain can be defined as a group of organizations included in the upstream and downstream flow of products, services, finances, and information from a source to a final customer. Supply chain management describes the strategic re-organization of processes among networks of companies which are included in the chain (Sharifi et al., 2013). "Supply chain management is the integration of

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key business processes from end user through original suppliers that provides products, services, and information that add value for customers and other stakeholders” (Lambert et al., 1998, p.1).

Supply Chain Strategy (SCS) as an emerging research area of supply chain management, requires a study from both the academia and the practitioners of supply chain management (de la O & Matis, 2014). These strategies are crucial to the success of a firm’s product and market growth strategy when today’s great demand uncertainty, higher risk, increasing competitive intensity and complex business environment are present (Sharifi et al., 2013; Roh et al., 2014).

Failures in supply chain management are still common in today’s industries. Not sorting different products with appropriate SCSs is one of the failure reasons (Li & O’Brien, 2001). SCSs must be dynamically matched customer needs and problems to maximize competitiveness in the market. There is no single SCS that is applicable to all product types in industry (Aitken et al., 2003). Therefore, developing a proper SCS by taking into consideration various criteria will be helpful for companies’ sustainability and overall success.

This study identifies and explains the components which affect the SCS of a firm and classify the SCSs described in the literature. Five components and seven kinds of SCS models are described. These strategies are grouped under three main headings: efficiency oriented, responsiveness oriented, and hybrid SCSs. In the last section of the study, SCS selection criteria and sub criteria are defined. These criteria, are intended to guide companies in strategy selection.

## **COMPONENTS AFFECTING SUPPLY CHAIN STRATEGY**

Supply chains include the flow of information, product and money. These concepts are basis of organizations in terms of cost, market power, service level, competitiveness, etc. Today organizations should offer low cost, high customer service level, fast delivery and flexible solutions by using high technologies. In reality, accomplishing all of them is difficult. Thus, companies need to apply specific SCSs according to their priorities. For example, Ryanair focuses on cost and offers cheap service. One of the key decisions for supply chain managers is to choose the right strategies (Waters, 2003). Market characteristics, type of product or services, internal capabilities and available external resources are critical components in forming SCSs (Sharifi et al., 2013).

Before designing a supply chain, demand structure of the product should be considered. The first step is to determine the structure of product demand for an effective supply chain. In this process, the product life cycle, demand predictability, product variety, market and service standards for the replenishment period are considered. According to literature review, product type, industry framework, managerial focus, and internal processes are basic components that affect the selection of strategy. Each of these components are discussed in the next section.

### **Product Type**

Functional and innovative products are identified by Fisher (1997). Long product life cycle, low-profit margin, low variety and long lead times are the main characteristics of functional products while short product life cycle, high-profit margin, high variety and short lead times are the main characteristics of innovative products. These product types require different SCSs. Other researchers expanded consider-

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