

1. Introduction

1.1 Research Motivations

Supplier-customer relationships have undergone radical changes in recent years because the business environment has changed (e.g., volatility in demand, curtailment of product life cycle, changing of information technology, and so forth). Many enterprises have been typically moving away from vertical integration toward more external contracting of key activities, thereby building a complex network of firms. Facing this situation, new organizational forms such as the extended or agile enterprise emerge to allow for a tighter link among strategic partners - customers, suppliers, or other third party service providers - that decide to dovetail their capabilities to provide a seamless and electronically enabled closed loop of unimpeded business processes. Corporate supply chains become more network-connected and involve more business partners.

The core idea of this emerging supply chain network structure is how to enhance competitive performance by closely integrating the internal functions within a company and effectively linking them with the external operations of suppliers and channel members. Since this kind of supply chain collaboration involves more business partners than traditional inter-firm coordination, thus, the issue that how to well administer supply chain collaborative activities to improve supply chain performance is becoming very important.

There are many benefits coming along with supply chain collaboration, e.g., reduction of inventory, reduction of late delivery, improvement of order fulfillment, improvement of service quality, enhancement of customer satisfaction, and so forth. Consequently, enterprises have implemented several strategies to improve effectiveness and to enhance efficiencies through partnering with suppliers and customers. In addition, enterprises are looking for complementary partners continuously and then developing and implementing with these partners because enterprises expect to generate more benefits by this kind of cooperation, which cannot be generated by either firm in isolation. In this way enterprises within the supply chain network including manufacturing suppliers, original equipment manufacture venders, distributors, and logistics partners are able to collaboratively plan, implement, and manage the flow of goods, services, and information along the value systems in a way that increases customer-perceived values and optimizes the efficiency of the chain.

Because collaborating with trading partners along the supply chain may result in great benefits, many enterprises are beginning to investigate different approaches to make their supply chain more capable to obtain more profits. The issue such as how to develop good supply chain capabilities to handle the increasing complexity and dynamism is becoming more important than ever.

1.2 Research Objectives

This study seeks to better explain the supply chain capability construct. Although previous studies have contributed greatly to our understanding of how firms should build a good collaborative relationship with trading partners (Angeles and Nath 2000, Dyer and Singh 1998, Hart and Saunders 1998, Kumar and van Dissel 1996), they overlook the important fact that a good performance of supply chain collaboration may depend not only on the firm itself, but also on the whole network of relationships in which the firm is embedded. To make the supply chain collaboration successful, it is important to offer an integrated view of what capabilities a supply chain should obtain in terms of transaction handling capabilities, relationship capabilities, IT capabilities, and so on. We believe that a systematic investigation of these influences could offer significant insights for firms to manage their supply chain network. Thus, this paper seeks to contribute to the literature on supply chain studies through (1) the development and formalization of a framework of supply chain capabilities within the supply chain network; and (2) the operationalization and test of the framework through primary field data obtained in industrial supply chains.

1.3 Research Questions

This research investigates the necessary capabilities that today's corporate supply chain has to obtain for better performance. The questions addressed can be summarized as follows:

- (1) What are the key supply chain capabilities for better management of today's supply chain networks?
- (2) How do we measure these capabilities?

1.4 Research Arrangement

The research is organized as follows. In chapter 2, we collect previous research concepts to describe significant supply chain capabilities and how these capabilities influence supply chain performance in the positive way. In chapter 3, we develop capability construct from past related research on supply chain performance, form a research framework for measuring the construct, and design the process of developing measurement instruments for the construct. We introduce our research approach, together with how these approaches are applied in this study in Chapter 4. The methodology and statistical analysis techniques of this research are described. To validate the proposed framework, we conduct the general survey in Taiwan PC industry. The measurements are assessed in Chapter 5 and we discuss the result in Chapter 6. The concluding chapter describes limitations and implications of the study for both academics and practices.