Mapping the Critical Links Between Supply Chain Evaluation System and Supply Chain Integration Sustainability: An Empirical Study

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ABSTRACT

Supply Chain Integration is widely advocated as an important factor to attain superior supply chain performance. While firms are able to achieve integration, they find it hard to sustain integration. In this paper, the authors argue that to sustain integration partner firms must establish a formal system to evaluate supply chain-wide performance. The authors draw on theories from a number of management disciplines to map the critical links between supply chain evaluation capability and supply chain integration sustainability. The authors develop and test the research model by conducting an empirical study involving 102 firms. The results of the study show that supply chains can sustain integration by establishing a supply chain wide evaluation system.

Keywords: Supply Chain Evaluation System, Supply Chain Integration, Supply Chain Performance, Sustainability, Theory Building

INTRODUCTION

It is generally accepted in the literature that successful manufacturing firms no longer compete head-to-head with other firms, but instead, they compete supply chain to supply chain. This means that firms rely on the complementation between their own internal competencies and those of their supply chain partners to achieve competitive advantage. To achieve complementary competencies among independently owned firms, a relatively new form of organizational governance, called Supply Chain Integration (SCI), is preferred over more traditional forms such as vertical integration or market-orientation. The advantage of
developing SCI capability is that it achieves the collaboration and communication capabilities of vertically integrated firms while maintaining the flexibility and responsiveness capabilities of market-oriented firms. This allows firms with SCI capabilities to compete in new ways that help them, and their partner firms, achieve superior performance. Growing evidence suggests that the higher the degree of SCI capabilities achieved, the greater the potential benefits. Some studies show that SCI capabilities result in cost reductions, improvements in inventory, customer service, new product development, information and material flows, and financial performance for the focal firm (Stevens, 1990; Lee et al., 1997; Narasimhan & Jayaram, 1998; Johnson, 1999; Frohlich & Westbrook, 2001; Rosenzweig et al., 2003; Vickery et al., 2003; Droge et al., 2004; Bagchi et al., 2005). However, these studies examined how SCI affects the performance of an individual focal firm rather than the performance of the supply chain as a whole.

Despite the aforementioned studies, which show a positive relationship between SCI and focal firm performance, others show that the positive relationship diminishes over time. Stated differently, firms that initially achieved SCI were unable to sustain it, and its benefits, in the long run (Boddy et al., 1998; Spekman et al., 1998; Holmberg, 2000; Lapide, 2000; Vinas, 2001; Lambert & Pohlen, 2001; KPMG, 2003; Upstate South Carolina Supply Chain Consortium, 2003; Moberg & Speh, 2003; Lee, 2004). The capabilities appear to have deteriorated over time, leading to a tremendous waste of financial and temporal resources and consequently, harming the ability of the supply chain to stay competitive. This finding is counter-intuitive in that supply chains achieving superior performance through SCI capabilities should be able to maintain the capabilities over time.

The purpose of this study is to provide theoretical and empirical support for explaining why supply chain partners fail to sustain SCI in the long term and thus fail to maintain superior supply chain performance. In doing so, we suggest how supply chain partners can sustain SCI and its associated benefits.

LITERATURE REVIEW

The literature suggests that superior business performance is achieved through competitive advantage by developing business capabilities that provide value-added activities to end-users in unique ways or at lower prices than competitors (Porter, 1991). Providing value-added activities in unique and low-cost ways require anticipating customer demand and responding to changes in the demand faster than competitors (Stalk et al., 1992). Independent firms can leverage each others’ capabilities to achieve competitive advantage for the entire supply chain. The literature refers to the leverage of capabilities in a supply chain as an outcome of SCI (Geoffrion & Powers, 1995).

To explain how companies create capabilities, the Resource-Based View (RBV) theory says that firms must invest resources in improving business processes (Stank et al., 2005). These include, but are not limited to, customer focus, time management, integration, information exchange, demand management, new product development, and evaluation capabilities.

Supply Chain Evaluation Capabilities (SCPM)

In addressing the importance of evaluation capabilities, Lambert and Pohlen (2001), argue that they are essential to supporting and sustaining SCI capabilities. They stress the importance of developing supply chain evaluation system capabilities, which they refer to as Supply Chain Performance Measurement Systems (SCPM), for sustaining SCI. In academia, SCPM is generally described as an evaluation system designed to measure system-wide performance of all firms in a supply chain. It differs from performance metrics designed to measure specific functions or activities of individual firms (Holmberg, 2000; Lambert & Pohlen, 2001).
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