

The impact of supply chain management practices on competitive advantage and organizational performance

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Abstract

Effective supply chain management (SCM) has become a potentially valuable way of securing competitive advantage and improving organizational performance since competition is no longer between organizations, but among supply chains. This research conceptualizes and develops five dimensions of SCM practice (strategic supplier partnership, customer relationship, level of information sharing, quality of information sharing, and postponement) and tests the relationships between SCM practices, competitive advantage, and organizational performance. Data for the study were collected from 196 organizations and the relationships proposed in the framework were tested using structural equation modeling. The results indicate that higher levels of SCM practice can lead to enhanced competitive advantage and improved organizational performance. Also, competitive advantage can have a direct, positive impact on organizational performance.

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1. Introduction

As competition in the 1990s intensified and markets became global, so did the challenges associated with getting a product and service to the right place at the right time at the lowest cost. Organizations began to realize that it is not enough to improve efficiencies within an organization, but their whole supply chain has to be made competitive. The understanding and practicing of supply chain management (SCM) has become an essential prerequisite for staying competitive in the global race and for enhancing profitably [1–4].

Council of Logistics Management (CLM) [5] defines SCM as the systemic, strategic coordination of the

traditional business functions and tactics across these businesses functions within a particular organization and across businesses within the supply chain for the purposes of improving the long-term performance of the individual organizations and the supply chain as a whole. SCM has been defined to explicitly recognize the strategic nature of coordination between trading partners and to explain the dual purpose of SCM: to improve the performance of an individual organization, and to improve the performance of the whole supply chain. The goal of SCM is to integrate both information and material flows seamlessly across the supply chain as an effective competitive weapon [1,6].

The concept of SCM has received increasing attention from academicians, consultants, and business managers alike [4,6–8]. Many organizations have begun to recognize that SCM is the key to building sustainable competitive edge for their products and/or services in an increasingly crowded marketplace [9]. The concept of SCM has been considered

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from different points of view in different bodies of literature [7], such as purchasing and supply management, logistics and transportation, operations management, marketing, organizational theory, and management information systems. Various theories have offered insights on specific aspects or perspectives of SCM, such as industrial organization and associated transaction cost analysis [10,11], resource-based and resource-dependency theory [12], competitive strategy [13], and social–political perspective [14].

However, despite the increased attention paid to SCM, the literature has not been able to offer much by way of guidance to help the practice of SCM [15]. This has been attributed to the interdisciplinary origin of SCM, the conceptual confusion, and the evolutionary nature of SCM concept. There is no generally accepted definition of SCM in the literature [6]. The concept of SCM has been involved from two separate paths: purchasing and supply management, and transportation and logistics management [16]. According to purchasing and supply management perspective, SCM is synonymous with the integration of supply base that evolved from the traditional purchasing and materials functions [17,18]. In the perspective of transportation and logistics management, SCM is synonymous with integrated logistics systems, and hence focus on inventory reduction both within and across organizations in the supply chain [8,19–22]. Eventually, these two perspectives evolved into an integrated SCM that integrates all the activities along the whole supply chain.

The evolutionary nature and the complexity of SCM are also reflected in the SCM research. Much of the current theoretical/empirical research in SCM focuses on only the upstream or downstream side of the supply chain, or certain aspects/perspectives of SCM [23]. Topics such as supplier selection, supplier involvement, and manufacturing performance [24,25], the influence of supplier alliances on the organization [26], success factors in strategic supplier alliances [27,28], supplier management orientation and supplier/buyer performance [29], the role of relationships with suppliers in improving supplier responsiveness [30], and the antecedence and consequences of buyer–supplier relationship [31] have been researched on the supplier side. Studies such as those by Clark and Lee [32], and Alvarado and Kotzab [19], focus on the downstream linkages between manufacturers and retailers. A few recent studies have considered both the upstream and downstream sides of the supply chain simultaneously. Tan et al. [16] explore the relationships between supplier management practices, customer relations practices and organizational performance; Frohlich and Westbrook [33] investigate the effects of supplier–customer integration on organizational performance, Tan et al. [4] study SCM and supplier evaluation practices and relate the constructs to firm performance, Min and Mentzer [34] develop an instrument to measure the supply chain orientation and SCM at conceptual levels. Cigolini et al. [15] develop a set of supply chain techniques and tools for examining SCM strategies. Extensive case studies about the implementation

of SCM have been conducted by the IT service providers (such as SAP, Peoplesoft, i2 and JDEdwards) and the research firms (such as Forrester Research and AMR Research) (<http://www.supply-chain.org>) and many case histories of successful implementations of SCM have been reported in the literature. Taken together, these studies are representative of efforts to address various diverse but interesting aspects of SCM practices. However, the absence of an integrated framework, incorporating all the activities both upstream and downstream sides of the supply chain and linking such activities to both competitive advantage and organizational performance, detracts from usefulness of the implementation of previous results on SCM.

The purpose of this study is therefore to empirically test a framework identifying the relationships among SCM practices, competitive advantage and organizational performance. SCM practices are defined as the set of activities undertaken by an organization to promote effective management of its supply chain. The practices of SCM are proposed to be a multi-dimensional concept, including the downstream and upstream sides of the supply chain. Operational measures for the constructs are developed and tested empirically, using data collected from respondents to a survey questionnaire. Structural equation modeling is used to test the hypothesized relationships. It is expected that the current research, by addressing SCM practices simultaneously from both upstream and downstream sides of a supply chain, will help researchers better understand the scope and the activities associated with SCM and allow researchers to test the antecedences and consequences of SCM practice. Further, by offering a validated instrument to measure SCM practices, and by providing empirical evidence of the impact of SCM practices on an organization's competitive advantage and its performance, it is expected that this research will offer useful guidance for measuring and implementing SCM practices in an organization and facilitate further research in this area.

The remainder of this paper is organized as follows. Section 2 presents the research framework, provides the definitions and theory underlying each dimension of SCM practices, discusses the concepts of competitive advantage and organizational performance, and develops the hypothesized relationships. The research methodology and analysis of results are then presented, followed by the implications of the study.

2. Research framework

Fig. 1 presents the SCM framework developed in this research. The framework proposes that SCM practices will have an impact on organizational performance both directly and also indirectly through competitive advantage. SCM practice is conceptualized as a five-dimensional construct. The five dimensions are strategic supplier partnership, customer relationship, level of information sharing, quality of

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