

# Identifying Critical Success Factors for Supply Chain Excellence

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## ABSTRACT

*This paper presents a research framework for studying supply chain excellence, emphasizing two distinct paths of knowledge acquisition, that is qualitative inquiry through interviews with senior supply chain executives in Taiwan and quantitative inquiry through data collection from companies that operate in Taiwan. Four factors are considered as the antecedents of supply chain excellence, such as collaboration, organizational conditions, technology adoption, and operations. The authors use the grounded theory approach to further understand those four critical factors and relevant concepts. Organizational condition was ranked by our senior supply chain executives as the most important factor based on this qualitative investigation. The effect of four critical factors on organizational performance is also assessed through regression analyses, and the results help supply chain professionals in Taiwan determine which factors and concepts of supply chain management to focus on to improve business performance. Although these findings are situation-dependent, the proposed framework is different from existing literature and can be adopted in other international studies to enhance the body of knowledge on supply chain management.*

*Keywords: Critical Success Factors, Qualitative Data Analysis, Regression Models, Supply Chain Excellence, Supply Chain Management*

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## 1. INTRODUCTION

Supply chain management (SCM) is a holistic and a strategic approach to demand, operations, procurement, customer engagement, and logistics process management (Chow et al., 2008; Quesada et al., 2008; Robb et al., 2008; Seuring,

2008; Singer & Donoso, 2007; Burgess et al., 2006; Storey et al., 2006; Swafford et al., 2006; Robinson & Malhotra, 2005; Bruce et al., 2004; Cigolini et al., 2004; Lee, 2004; Madu & Kuei, 2004; Tan et al., 2002; Gunasekaren et al., 2001; Morash, 2001; Tan et al., 1999; Fisher, 1997). It involves designing and planning activities, procurement and sourcing activities, making products and parts, tracking inventory and order

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fulfillment, and delivery to the customer and end users. Zara, the Spanish apparel manufacturer and retailer, is one example of the global leaders who have benefited from their emphasis on SCM. As noted by Chow et al. (2008, p. 666), Zara “learned to introduce more than 11,000 products per year. From the drawing board to store racks, new fashions can be brought into markets in two weeks. Zara’s supply chain system can deliver new shipments to its 600 or so stores around the globe every few days.” Quesada et al. (2008) through empirical studies found that some associations do exist between external supply chain integration and order winning strategies such as delivery, quality, flexibility, and customer service. Their study highlights the aims of a complex supply chain system. Lambert et al. (2005), Lambert (2004), Lambert and Cooper (2000), and Lambert et al. (1998) also note that a supply chain can be implemented through three elements: supply chain processes, supply chain network structures, and management components. Robinson and Malhotra (2005) identify three challenges for implementing SCM: (1) developing trust and collaboration among supply chain members; (2) identifying best practices and implementing them in a structured way; and (3) establishing the latest collaborative information systems. To achieve business excellence, Kuei et al. (2002) identify two dominant themes in a supply chain setting: implementing supply chain quality management and implementing supply chain technology management. The former deals with the social components (e.g., cultural acceptance/employee fulfillment in a focal firm and total endorsement of supply chain partners) of the supply chain, while the latter addresses concerns of technical systems in managing supply chains. A somewhat different view of the main factors of SCM implementation was given by Chen and Paulraj (2004). They not only propose a theory of SCM, but also create eight constructs for SCM based on a literature search of 400 articles. These eight critical successful factors are: environmental uncertainty, customer focus, top management support, sup-

ply strategy, information technology, supply network structure, managing buyer-supplier relationships, and logistics integration.

To study the association of components of SCM and organizational performance, Chow et al. (2008) use an empirical survey of middle-line managers in the US and Taiwan. Chow et al. (2008) learn that both operations competencies and practices in a complex supply chain setting have positive effects on business performances. Based on a survey of 72 furniture manufacturers in China, Robb et al. (2008) find that factors such as human resources and customer relationship enhance flexibility, which in turn impacts the effectiveness of supply chains. Kannan and Tan (2007) use regression analyses to examine the association of internally (as well as externally) focused operational quality practices and organizational performance. In a supply chain setting, according to Kannan and Tan (2007), customer service seems to be associated with customer input, design quality, and JIT quality. Hendricks and Singhal (2005) report the long-term stock price effects due to supply chain disruptions. They note that the firms in question normally can not quickly recover from any supply chain disruptions. Tan et al. (1999), using a survey of quality directors in the US, construct regression models to show the impact of key internal and external SCM factors on corporate performance. For the case of a system’s overall performance, for example, key factors are: time spent analyzing competitors’ strategies and actions, overall competitiveness of the industry, enhancement of customers’ ability to seek assistance, management commitment to quality, involvement of the quality department, and social responsibility of the management.

To gain competitive advantage, enterprises in a complex supply chain setting also need to master the challenges of speed, efficiency, assets (both inventory and cash), and services (Gary, 2005). In addition to these four dimensions of supply chain performance, knowledge of supply chain executives and managers on the three levels of supply chain excellence are needed. These levels of supply chain excellence are:

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