

## Chapter 7.11

# The Critical Success Factors of Web-Based Supply Chain Collaboration Adoption: An Empirical Study

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### ABSTRACT

This chapter aims to identify the Critical Success Factors (CSFs) and outcomes of Web-based Supply Chain Collaboration (SCC). A total of 230 questionnaires were initially distributed to sample respondents of seven manufacturing firms in Jordan that use Web systems to collaborate with supply chain members. The results showed that top management support, IT infrastructure, training and education, business processes reengineering, trust among partners, open information sharing, and performance measurement are critical factors for Web-based SCC implementation success. In addition, this study revealed that Web-based SCC implementation is positively related to supply chain

relationship quality, performance effectiveness, and performance efficiency.

### 1. INTRODUCTION

The evolution and development of using the Internet and Web sites in business in the form of Web systems has been a major catalyst of change within and among organizations recently.

Jordan has recently embarked on an ambitious plan to make full use of the information technology capabilities. Although the Internet boom has been drastically affecting ways of doing business in Jordan, Web systems adoption by Jordan's firms is still scant, and the Web applications is relatively immature. At the same time, using Web systems is evolving, and the number of organizations involved is growing.

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Raising awareness and knowledge is essential for adopting Web-based SCC concept in Jordan, at both the organizational and inter-organizational levels, especially for manufacturing firms that are at the heart of the supply chain that are insufficiently informed about Web-based SCC.

Information technology alone is an insufficient part in ensuring implementation success. Successful deployment of Web applications requires smooth integration of a number of factors. The challenge for organizations today is to understand the factors that play a critical role in utilizing Internet and web systems capabilities successfully, and their implications on SCC to enable them to compete in the electronic age. Although many studies covered the role and the impact of information technology in SCM and collaboration, there are a few contributions about the CSFs that would support practitioners in their efforts to successfully achieving of Web-based SCC.

The main objective of this research is to identify and understand the critical factors that affect the use of the Internet and Web systems successfully in SCC, and address them effectively to ensure that the promised benefits can be realized and failures can be avoided. Therefore, the objectives of this research are to

- Provide Jordanians supply chains members with better understanding, and a clear picture of the Web-based SCC concept and its success requirements.
- Identify the CSFs and subfactors of Web-based SCC.
- Determine the outcomes of Web-based SCC to judge whether an implementation is a success or a failure.
- Identify the relationship between the CSFs and the outcomes of Web-based SCC.

## **2. LITERATURE REVIEW**

### **2.1 Supply Chain Collaboration (SCC)**

The advent of SCC invents the need, at the inter-organisational level, to pay special attention to the recognizing of collaboration in order to prepare the chain members to build collaborative efforts successfully (Lambert et al., 2005). Collaboration in the context of supply chain, is still relatively evolving, appeared in the mid of 1990s in the most known form of Collaborative Planning Forecasting and Replenishment (CPFR). The foundation of collaboration is that a single company cannot successfully compete by itself and secure higher performance by operating individually (Mason and Lefrere, 2003).

Collaboration describes the close cooperation among autonomous business partners connecting in common objectives and joint decision-making process. SCC characterized by sharing the information, knowledge, risk and profits, joint planning, coordination, process integration between supply chain members, and collective performance metrics to evaluate individual and collective performance (Simatupang and Sridharan., 2005).

There are many definitions of the term SCC present in the literature. For example, Simatupang et al, (2004) described SCC as two or more independent firms jointly working to align their supply chain process to create value to end customers and stakeholders with great success than acting alone. Bagchi and Skjoett-Larsen (2005) defined SCC as a dimension of integration with key suppliers and key customers that lead to involve supply chain partners in decision-making with long term relationships with key suppliers and customers. Min et al., (2005) defined SCC as a firm's culture of working together with other firms toward a common set of goals that bring mutual benefits to a partnering relationship.

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