

Abstract

Because the business environment has changed (e.g., volatility in demand, curtailment of product life cycle, changing of information technology, and so forth), corporate supply chains become more network-connected and involve more business partners. Whether the company has the capability to operate well in such supply chain network becomes a significant issue. To fulfill this need, this research aims to develop a framework for measuring the supply chain capability. The literature review and company interviews allow us to propose four capabilities and relative measurements. A field survey is then conducted in the Taiwan PC industry to assess the measurements. To ensure the measurements are valid, we apply two-step measurement assessments: the factor analysis and initial reliability are first conducted and then followed by item-total correlation, optimal reliability coefficients, convergent validity, and discriminant validity. The resulting model is an 18-item and three-dimension construct. The three dimensions are: (1) reducing transaction related risk, (2) promoting good relationship, and (3) managing environment change. The confirmatory factor analysis then suggests us to arrange the three dimensions in two groups. The first group includes the first dimension, indicating the firm capability, and the second group includes the other two, expressing the inter-firm capability. We further explore the relationships between the supply chain capabilities and IOS adoption, as well as supply chain roles. It is interestingly to note that different IOS requires different capability and so does different supply chain roles. Therefore, the contribution of this research can be two-folded: first, the managers can use this reference framework to diagnose the supply chain capability of their own firms, finding their strength and weakness. Second, managers can use the framework to evaluate the capability of their partners and better gauge the characteristics of the supply chain collaboration. This research can also contribute to the IT literature as the researchers can build upon this model to further examine of the factors that are discovered.

Keyword: Supply chain capability, Interorganizational systems, Information technology, Supply chain management