

Measuring the Success of Supply Chain Collaboration

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Abstract

The main concept of the modern supply chain management embraces the idea of a more holistic approach from a network perspective, for optimisation of a supply chain operation and improving the process of delivering customer value. Needless to say, it requires a high degree of collaboration among its supply chain participants in order to achieve the above goals. Still, there are the following fundamental questions to be answered:

1. How does supply chain collaboration influence the performance of its supply chain.
2. What can be regarded as successful supply chain collaboration.

This article intends to answer the above questions by proposing a model based on structural equation modelling (SEM).

As indicated in Figure 1, the model consists of two latent variables. The latent variable A represents the performance of collaboration and it is measured by two indicators, which are denoted as Y_1 and Y_2 . The latent variable B represents the performance of supply chain and is measured by three indicators, which are denoted as Y_3 , Y_4 , and Y_5 . These indicators are based on SCOR 3.0 Level 1 Metrics. The SEM hybrid model enables us to test the causality of each variable. As a result, we can answer question one through use of this model.

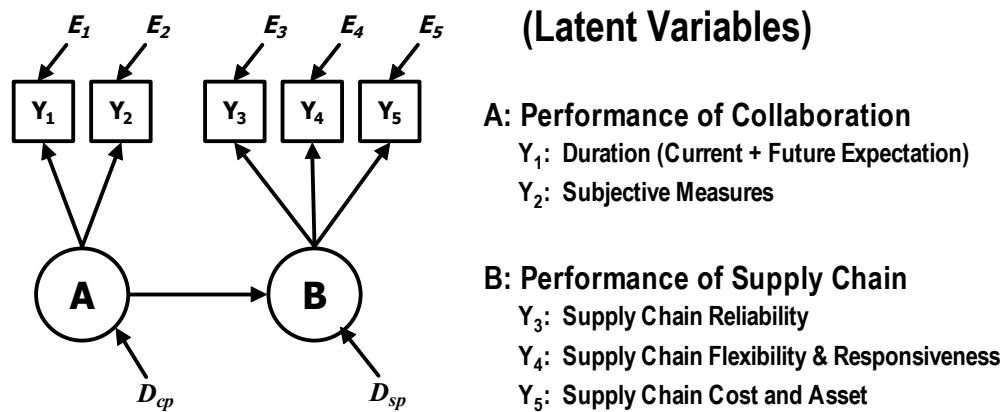


Figure 1: The Model of Testing the Causality between the Performance of Collaboration and Performance of Supply Chain

Anderson (1990) argued that the success of an inter-firm arrangement should be assessed by looking at the inputs and the outputs of the arrangement, as the former implies the long-run performance of the inter-firm arrangement and the latter indicate the short-run one.¹ A successful supply chain collaboration can be viewed as 1) its influence on the operational performance of the chain and 2) how sustainable this influence is. Through this model, one of two dimensions of the successful of supply chain collaboration can be analysed by examining the link between collaboration performance and the performance of the supply chain, where the link indicates the first dimension. Regarding the second dimension, examining the input determinants (determinants of performance of collaboration), which indicates whether the effect of the collaboration performance is sustainable, is reserved for part of another study.



¹ Anderson, Erin (1990). Two firms, one frontier: On assessing joint venture performance. *Sloan Management Review*, 31(2), 19-31.