Supply chain collaboration to create a competitive advantage

Evelyne Vanpoucke – Maastricht University and Vlerick Leuven Gent Management School
Ann Vereecke – Vlerick Leuven Gent Management School, Ghent University

Conventional wisdom among practitioners holds that supply chain collaboration yields significant performance improvements. It is also what many text books on supply chain management preach.
Conventional wisdom among practitioners holds that supply chain collaboration yields significant performance improvements. It is also what many textbooks on supply chain management preach. McClellan, for example, in the preface to his book Collaborative Manufacturing, refers to supply chain collaboration as “a win/win arrangement that is likely to provide improved business success for both parties.” Some even consider it a prerequisite for future competitive performance: according to Poirier and Bauer (2001), “future success no longer belongs to a single firm ... The future belongs to networks of supply.”

However, not all stories of supply chain partnerships are equally successful. A recent study conducted by Supply Chain Management Review and CSC (2004) observes that, although 44% of the companies have functions installed specifically for supplier and customer collaboration, managers do not really understand how to achieve supply chain collaboration. Moreover, the managers indicate that supply chain collaboration is seen as a risky undertaking. Most initiatives fail or appear less promising than expected – and only about 35% of the supply chain collaboration initiatives turn out to be moderately successful.

So, two questions arise: How do we know when supply chain collaboration will lead to success? And how do we manage the relationship so that it turns into a successful one? In this brief article, we have summarised some of the results of a doctoral research study in which we compared successful and unsuccessful supply chain collaborations in order to identify the characteristics of the successful ones.

Through our research, we have learned that the extent to which supply chain collaboration leads to performance depends on two major factors. First of all, there is the context in which the collaboration takes place. Different contexts require different approaches. Secondly, there is the impact of some subtle, sometimes intangible, aspects of the relationship, which we will refer to as the ‘behavioural factors’ of the relationship. They are not always easy to manage, but being aware of them is already a good start.

The context of the collaboration

Our research has enabled us to identify three stages of supply chain collaboration. These stages can be distinguished according to several characteristics of the company’s information flows: the amount of information shared, the quality of this information, and the use of IT applications to manage the supply chain information flows. We labelled these stages as: Silent, Communicative and IT-intensive. The Silent stage is characterised by low levels of information flows. The Communicative stage displays high levels of information flows with high quality. The IT-intensive stage is comparable to the Communicative stage in terms of the level and quality of the information, with the addition of an intensive use of IT for sharing the data systematically. Therefore, the IT-intensive stage can be described as the more advanced stage of supply chain collaboration.

As one would expect, IT-intensive collaborations show higher levels of operational performance, because they enable a company to use data from its partners in its own coordination and planning systems and to create advanced forms of integration with those partners, such as joint planning activities and joint goal setting. However, they do not necessarily increase the satisfaction of the partners involved in the collaboration.

Our research also shows that not all collaborations need to develop to the highest (IT-intensive) stage. We observed that IT-intensive collaborations are successful primarily in highly innovative environments with high levels of interdependence among the partners. Because supply chain collaboration practices in innovative environments still build on trust, personal contact cannot simply be replaced by IT supply chain applications; instead, it should be used as an additional way to communicate and to create additional operational improvements in the supply chain. Furthermore, to be successful, this highest stage of collaboration also requires interdependence among the partners.
The behavioural factors of the collaboration

Quite a few sophisticated practices can be applied to the supply chain: Collaborative Planning, Forecasting and Replenishment (CPFR); Vendor-Managed Inventory (VMI); and Efficient Customer Response (ECR) are some examples. However, we see that some of the companies that implement such practices still do not succeed in making the collaboration a successful one. Our research suggests that behavioural factors play an important role.

We have identified three types of behavioural factors, which we labelled: collaboration attributes, communication behaviour, and collaboration management:

- **Collaboration attributes** are relational characteristics such as trust, interdependence and coordination among the partners in the relationships.

- **Communication behaviour** refers to the level of information sharing, the quality of this information (including its reliability and timeliness), and how this information is used and translated into the partner’s business processes.

- **Collaboration management** refers to management practices that must be implemented with the collaborative practice to achieve superior performance. Examples of such management practices are: supply chain leadership, process thinking and performance management.

An overview of these behavioural factors and how they are linked to performance is presented in the figure below.

Our research shows that these behavioural factors, rather than the collaboration practices themselves, predict the success of strategic collaborations. Indeed, the more these behavioural factors are present, the higher the likelihood that the collaboration will be successful.

Our analyses also show that the **collaboration attributes** explain most of the variance in a collaboration’s success. This is followed by **communication behaviour. Collaboration management**, although still significant, explains the least about the variance in a collaboration’s success. This tells us that trust and coordination are the most important building blocks for a successful collaboration. Therefore, managers need to assure that the collaboration is perceived to offer significant benefits to both partners, and they should carefully plan their activities accordingly.

The importance of these behavioural factors implies that managers should not underestimate the time and energy required to create and sustain a strategic collaboration. Building supply chain collaborations and managing the collaborative relationships is time-intensive. Furthermore, our study shows that two different governance mechanisms are important for strategic collaborations: formal mechanisms (i.e. collaboration management techniques) and informal mechanisms (i.e. collaboration attributes) are complements rather than substitutes, and both should be present to create successful supply chain collaborations.
A selection of publications


For more information

This paper synthesises the doctoral research of Evelyne Vanpoucke, under the supervision of Professor Ann Vereecke. For more information, please contact Professor Evelyne Vanpoucke (e.vanpoucke@maastrichtuniversity.nl).