

Supply Chain Collaboration: A Study of the Cereals Supply Chain

This project is a collaboration between Cranfield School of Management and Cardiff Business School, supported by the Food Chain Centre and the Home Grown Cereals Authority (HGCA).

The project started in February 2005 and has a duration of three years. During this period eight case studies will be conducted focusing on different sub-sectors within the cereals industry, including malting and brewing, bread making, animal feed and bio-fuels. Some of the main industrial partners include Coors Brewers, Bernard Matthews, Frontier and United Biscuits.

The overall aim of the project is to transform the UK cereals supply chain by fulfilling two main objectives.

- To conduct improvement programmes within the representative cereals supply chains and to give confidential recommendations to the companies involved in each chain
- To disseminate general lessons from these programmes in order to give guidance and encouragement to the wider industry

A multiple case study methodology is being used for the research, in which each of the studies has its own specific objectives:

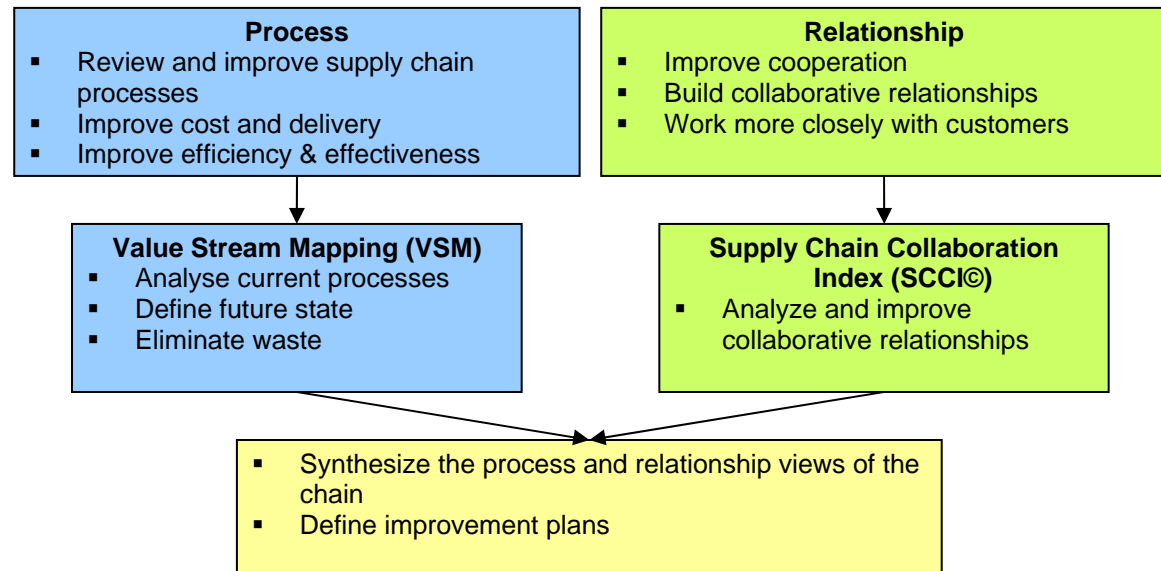
1. To analyse collaboration across the Supply Chain
 - Producing a Supply Chain Collaboration Index (SCCI)
 - Conducting collaboration interviews for specific relationships
2. To analyse the current supply chain
 - Creating a process map of the supply chain
3. To improve the current situation
 - Identifying opportunities to eliminate waste
 - Creating a 'Future State' vision agreed by the companies
 - Producing recommendations as to achieve that vision
 - Defining an agreed action plan

The project covers two essential aspects of supply chain management, one refers to the 'hard' elements of the process (i.e. activities, times and inventories), the other to the 'soft' elements, this is, the personal and organisational relationships in the chain. These two aspects were analysed using different tools:

- **Process Mapping:** It is a pencil and paper tool that helps to visualise and understand the flow of material and information as a product makes its way through the supply chain. Some of the main benefits of this tool are that it helps to identify waste in the process, supporting the analysis of the linkages between information and material flows and serving as a basis for the implementation plan.
- **Supply Chain Collaboration Index (SCCI[®]):** the purpose of this tool is to capture quantitative and qualitative data to reveal the dynamics of long-term collaborative business relationships. The method has been proven in a large number of multi-million pound, bilateral relationships in the public and private sectors, and subjected to rigorous testing. Measurements from both sides of a collaborative relationship are taken in order to assess five key dimensions of the relationship (creativity, stability, communication, reliability and value) and seven additional characteristics (long term orientation, interdependence, C³ behaviour, trust, commitment, adaption and personal relationships)

The outcomes of both approaches were used to produce a diagnosis of the supply chain, identifying key areas of opportunity and generating an action plan, as shown in Figure 1.

Figure 1: Methodology



Three case studies have already been completed giving some indication of the overall results of the project. It has been found that the commodity nature of the products in question promotes relationships that are transactional, where parties are not interested on establishing a close, long-term supply chain relationship. However, the project has also shown that in parts of the industry, other factors such as quality, delivery and reliability have gained importance. Taking these factors into consideration requires more complex relationships which are not necessarily served by a transactional approach. As a result, some of the organisations that contributed to this study are already moving towards more collaborative, long-term approaches.

The research has also revealed a number of opportunities for improvement in areas such as haulage, information flow, inventory management, vulnerability, communication, personal relationships and trust.

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