Chapter VII
Does Trust Foster Sustainability?
Results from a Management Simulation Game

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ABSTRACT

Successful supply chain collaboration is one of the principal means of achieving competitive advantage. New concepts such as vendor managed inventory, efficient consumer response, and factory gate pricing, among others, have been developed to optimize supply chains. The dual focus of supply chain collaboration has traditionally been customer service and cost. Sustainability is now also a primary focus. In this chapter, we study how trust impacts sustainability. Trust is often seen as a key moderator in supply chain performance. Yet, little is known about the role it plays in achieving sustainable supply chains. The ongoing debate about the greenhouse effect highlights the relevance of this topic. We look at trust and sustainability in supply chains using an advanced management game played by master students. We present the empirical data collected and then develop tentative propositions. We conclude with a discussion of the potential impact of the results for business and make suggestions for further research.

INTRODUCTION

Supply chain management can be defined as the systematic strategic coordination and integration of traditional business processes across companies and of business functions along the supply chain to improve performance of individual companies and the supply chain as a whole (see e.g., Krikke, 1999). Its practical implementation boils down to concepts such as vendor managed inventory, efficient consumer response, factory gate pricing, outsourcing, and so forth. These concepts have been developed to counter phenomena such as the bullwhip effect, to create economies of scale, or to elicit better customer response. Collaboration is often the key to supply chain optimization.

Traditionally, an efficient supply chain was seen as a way to maximize customer service and minimize costs. Now, environmental considerations must also be taken into account. Al Gore (2006) has managed to focus attention on the green house effect and its underlying causes, especially CO_2 emissions, and has been recognized for his efforts with the Nobel Peace Prize. New EU directives and national environmental laws on emissions and recycling have led to closed loop supply chains.

Environmental impact is measured by (simplified) life cycle assessment (LCA). LCA in its pure form serves to assess the total environmental impact of a product and its supply chain in full detail. To reduce complexity, energy and waste-based environmental footprint measurements as proposed by Krikke, Bloemhof-Ruwaard, and van Wassenhove (2003) are an alternative. Measuring environmental aspects and LCA in the supply chain is dealt with in more detail later.

We believe that only by managing the full life cycle and hence the forward and reverse supply chain in their integrality can there be sustainability. Therefore, prevention is the first step toward achieving green solutions. *This chapter focuses on minimizing energy and materials wasted in the forward chain to reduce pressure on the reverse supply chain*. We emphasize the role of trust in this and also take cost and customer service into account.

Successful collaboration within supply chains appears to depend on several factors. Most existing theory looks at collaboration exclusively from one single angle be it product/technology, power/directorship, information/transparency, alignment/coordination, or performance. Some authors link these perspectives and describe the dynamics of the variables.

Possibly the most difficult, and yet the most important, variable to grasp is trust. McCutcheon and Stuart (2000) define trust as the belief that a party will act in a firm's best interest in circumstances where that party could act opportunistically at the expense of the firm. Amanor-Boadu and Starbird (2004) show convincingly that supply chains with high trust levels allow partners to cooperate more effectively and in so doing improve supply chain performance. Our own experience working in the area of logistics optimization has borne this out. Lack of trust often causes optimization projects and strategies to fail.

There is a considerable volume of literature on the relationship between trust and performance. Yet, the impact of trust on the sustainability of supply chains remains largely unexplored. We look at the role of trust in the greening of supply chains and collaboration. In Appendix IV, we show that most management games ignore this relationship altogether. Adding green objectives to supply chains adds complexity to decision making. As such complexities can only be resolved through good collaboration, in the end they can actually strengthen the relationship between supply chain players. We aim to develop tentative propositions using two cases. Case-based research is increasingly accepted as a way to develop new theory, provided it builds on existing constructs (Yin, 2003). We use constructs from established supply chain collaboration theory and closed loop supply chain theory.