



# The governance of inter-organisational relationships during different supply chain maturity phases



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## ABSTRACT

Supply chains and inter-organisational relationships have increased in popularity in recent years and supply chain management has received a vast amount of academic attention. The objective of this paper is to explore the implementation of supply chain management and, in particular, the changing phases of a supply chain as it moves towards maturity. We employ the minimal structure framework of van der Meer-Kooistra and Scapens [“The governance of lateral relations between and within organisations”, *Management Accounting Research*, 2008] to analyse the governance of a supply chain as it moves through the various phases. Drawing on the findings from a case study in an aero-manufacturing company, we explore how the minimal structures emerge and evolve as the supply chain matures.

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## 1. Introduction

In recent years, the importance and benefits of an effective and efficient supply chain have been widely recognised and supply chain management (SCM) has received increasing attention from many accounting and marketing scholars. Many companies, in some industries more than others, are now working more closely with their suppliers (Christopher, 2000). Scholars have discussed the benefits of developing closer ties with suppliers and the necessary prerequisites, such as rationalising the supply base, achieving a high level of information sharing, establishing cross-organisational teams, and building a trusting and collaborative environment (Ballou, Gilbert, & Mukherjee, 2000; Johnsen, Johnsen, & Lamming, 2008). However, implementing these prerequisites is not always straightforward. Furthermore, although the literature points out the key components of SCM, it provides little direction on how to implement them. As Lambert, Cooper, and Pagh (1998) noted more than a decade ago: “the authors appear to assume that everyone knows...what management must do to successfully manage the supply chain” (p. 4).

Some studies report implementation issues and failed attempts, and they state that few companies have actually achieved the claimed benefits of efficient SCM (Akkermans, Bogerd, & Vos, 1999; Kampstra, Ashayeri, & Gattorna, 2006; Storey, Emberson, Godsell, & Harrison, 2006). For instance, Halldórsson, Larson, and Poist (2008, p. 126) pointed out that “there is little empirical research on SCM implementation”. Similarly, Chen and Paulraj (2004, p. 151) emphasised that “both academics and practitioners are far from mastering SCM...[as] the complex network of interrelated activities in supply chains makes it challenging for managers to describe and comprehend how those activities are related and how they influence each other”, and they called for theoretical models to enhance our understanding of SCM.

In recent years, researchers have started to examine the processes which supply chains go through in an attempt to improve their effectiveness. This process is often labelled *supply chain maturity* and the supply chain maturity model (SCMM)<sup>2</sup> has been developed to provide a framework for studying it (such as, Berry, Ahmed, Cullen, Dunlop, & Seal, 2000; Lamming, 1993; Lockamy & McCormack, 2004; Mortensen, Freytag, & Arlbjørn, 2008). Even so, there continue to be calls for further empirical research to provide deeper insights into the supply chain maturity process (McCormack, Ladeira, & Oliveira, 2008; Mortensen et al., 2008). In particular, more attention needs to be given to the

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<sup>2</sup> Other authors refer to this process as the “Supply Chain Process Maturity” model (see, for example, Oliveira, McCormack, & Trkman, 2012). Although the various models differ in the number of phases or the terminology used, they all have the same underlying intention, which is to break down the process of reaching supply chain maturity into distinct phases and to identify the characteristics of each phase.

mechanisms of SCM as a supply chain moves through the various phases of the SCMM. In order to address this gap, the current paper explores how a specific company restructured its supply chain. Although the importance of SCM is widely acknowledged, the process of supply restructuring is rarely documented. This paper tackles the important question of what management needs to do to restructure and manage its supply chain.

Our intention is to reveal how organisations can manage the process of restructuring their supply chain. In particular, we study the process that a company operating in the aero-manufacturing industry went through in moving from a very traditional supply chain (with arm's length relationships) to a more mature supply chain (comprising partnerships with its suppliers). We study this company to explore how it restructured its supply chain. We will employ the SCMM to focus on the changing nature of the supply chain as it was restructured through the various phases. We aim to provide a detailed illustration of the development of SCM as the supply chain matures. The intention of the company we studied was to move to the final (maturity) phase quite quickly, but as we will show in our case study, in order to restructure its supply chain it had to go through the various phases of the SCMM.

We focus not only on the control mechanisms which were introduced, but also the way in which the company governed the supply chain relationships that were involved. We will use the notion of *governance* to capture all the practices used in managing supply chain relationships, including practices that are not actively designed by the parties themselves, but instead emerge through the processes of collaboration. Nooteboom (1999) defined the concept of governance as a much broader notion than control. He argued that “the term ‘governance’ aims to express that there are multiple interests and that the challenge is to achieve a viable and fruitful balance of interests and power” (1999, p. 1). In a later work, Nooteboom (2002) explained that the term ‘governance’ originated in transaction cost economics, but he extended it to include issues of trust as well as relational risk and transaction costs.

The supply chain we study has a dominant partner which controls all the critical aspects of the supply chain. This partner is a company, operating in the aerospace industry, which has a structured hierarchy of relatively dependent suppliers, who individually present no particular threat to the supply chain, but add value to the dominant partner (Cox, 1999; Shimizu, 1996). Although these suppliers are not easily replaceable (a characteristic of the aerospace industry), and therefore they should have relatively high bargaining power, the company studied is dominant, not only because of its market power, but also because of the social responsibility it bears as the supplier of the final product. Nevertheless, it cannot simply *control* the relationships in a traditional control sense; it needs to govern the relationships.

We believe that the minimal structures framework of van der Meer-Kooistra and Scapens (2008) offers useful insights into this process as it combines the technical issues involved in control processes with the more social issues, as well as recognising the broader setting, specifically the economic structure and the institutional structure. The framework conceptualises and classifies the elements of a governance package in terms of economic, institutional, social and technical structures. These structures are ‘minimal’ in the sense that they are not overly constraining; i.e., they provide both firmness and flexibility. As we will explain later, the notion of minimal structures was developed to explore innovation and particularly product development (see Brown & Eisenhardt, 1997; Kamoche & Cunha, 2001). van der Meer-Kooistra and Scapens (2008) extended the framework to study lateral relationships more generally, and in this paper we draw on their framework to study supply chain restructuring. More specifically, we draw on the minimal structures framework to explore the governance of supply chain relationships. We believe that studying SCM through the lens of the minimal structures framework has the potential to provide useful insights into the governance of a supply chain as it moves through the various phases towards supply chain maturity. In particular, as we will

see later, the minimal structures change as the supply chain is restructured through the various phases of the SCMM.

As indicated above, drawing on a case study of a company operating in the aerospace industry, we will illustrate the changes that the company went through in seeking to restructure its supply chain. In so doing, we will contribute, not only to the inter-organisational control literature, but also to the supply chain management literature and, in particular, to the literature which discusses supply chain maturity. We will highlight the governance mechanisms and minimal structures needed to move through the various phases of the SCMM. Our research question is: *how do minimal structures evolve as a company restructures its supply chain?*

The remainder of the paper is structured as follows. Section 2 discusses the SCM literature, while Section 3 describes the theoretical framework we use in analysing our case – namely, the SCMM and the minimal structures framework. Next, Section 4 describes our research design and Section 5 presents the empirical findings through the lens of the minimal structure framework. Finally, Section 6 discusses how the minimal structures changed during the supply chain restructuring process and Section 7 adds some concluding remarks, including areas for future research.

## 2. Supply chain management literature

In recent years the SCM has received increasing attention from both academics and practitioners. SCM refers to “the management of multiple relationships across the supply chain... [it] offers the opportunity to capture the synergy of intra- and inter-company integration and management” (Lambert et al., 1998, p. 1). It is “a process for designing, developing, optimizing and managing the internal and external components of the supply system” (Spekman, Kamauff, & Myhr, 1998, p. 54). Traditionally the marketing literature on supply chains has focused on the characteristics of SCM and the implications for procurement, channels of distribution and demand chain management. It discusses such issues as make-or-buy decisions (see, for example, Alvarado & Kotzab, 2001; Ballou et al., 2000; Jüttner, Christopher, & Baker, 2007), the degree of involvement and the number of suppliers (Gadde & Håkansson, 2001; Gadde & Snehota, 2000).

Lambert et al. (1998) argued that the implementation of SCM requires the identification of the key members of the supply chain, the business processes which need to be linked together, and the level of integration to be achieved. In a subsequent work Lambert and Cooper (2000) developed a supply chain management framework consisting of three interrelated elements which are necessary for successful management; namely, the supply chain network structure, the supply chain business processes and the supply chain management components.<sup>3</sup> Although Lambert and Cooper (2000) talk about the processes and elements required for successful SCM, they do not discuss in detail how these processes are implemented and evolve as a supply chain matures. Consequently, they called for further research on the processes through which an existing supply chain is modified to increase efficiency and to obtain the desired output (p. 81).

Efficient SCM entails the development of closer, long-term buyer-supplier relationships (Scannell, Vickery, & Droge, 2000) with “mutual benefits and/or sharing of information, profits and risks” (Kotzab, Grant, & Friis, 2006, p. 74). Furthermore a strategic purchasing focus requires a reduction in the number of suppliers, as well as a different management style (Spekman, 1988). Spekman and Carraway (2006) argued that collaboration requires an integration of people, processes, structures and information technology. Many studies have highlighted the importance of information sharing within the supply chain (see, for example, Barratt, 2004; Lambert & Cooper, 2000), and Chen and

<sup>3</sup> The supply chain management components consist of nine elements that are divided into two groups; namely, the physical and technical management components and the managerial and behavioural management components.

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