Exploring Information Technology and Supply Chain Governance: Case Studies in Two Brazilian Supply Chains

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ABSTRACT

The aim of this study is to investigate how information technology (IT) investment supports and relates to SCG and its conceptions (transactional and relational). The authors conducted exploratory case studies in two large Brazilian companies and two major suppliers, interviewing top supply chain executives. In the first case, they identified a more relational type of governance that was mainly based on the company’s relationship with its suppliers which was driven by the desire to achieve a greater market share. IT investments focused on sales and operations planning projects where all systems were being integrated. In the second case, they identified transactional governance as the predominant form. This reflects the presence of a great number of suppliers, low partnership and low supply on time delivery rate. IT investments are being made to achieve more relational governance through expenditure on e-procurement and greater integration with their suppliers using ERP.

Keywords: Brazilian Companies, Case studies, Information Technology Investment, Supply Chain Governance

INTRODUCTION

The introduction of IT in business operations is drastically changing the way supply chains operate, enhancing trust, collaboration and commitment among the members of the supply chain (Ghiassi & Spera, 2003). The development and continuous success of a supply chain is directly dependent on the IT used by companies (Ross, 2011). The use of these technologies often enables the creation, support and expansion of competitive advantages for these organiza-
tions (Sohal, Moss & Ng, 2001). IT becomes important for its ability to support an increase in communication.

Of key importance in the success of a supply chain are the global and long term benefits for all supply chain members. These may be achieved through collaboration and shared information, which may be facilitated by IT used in the supply chain (Gunasekaran & Ngai, 2004). IT use in the supply chain today goes beyond the operational aspects, a notion that is present in various studies of supply chains (Ketchen & Hult, 2007). Current studies embrace additional aspects such as trust, commitment, and power, among other features. Recent studies have highlighted the concept of supply chain governance (SCG) (Raynaud, Sauvee & Valceschini, 2005; Ruben, Boselie & Lu, 2007; Zhang & Aramyan, 2009).

SCG is viewed as covering more elements than those analyzed in supply chain management (SCM). Governance, an issue that has been more studied in the past several years, (Jain & Dubey, 2005), is considered one way to analyze inter-organizational relationships as a multidimensional phenomenon manifested in the structures and process of companies. Chen and Paulraj (2004) pointed out the need for examining the elements of SCG interactively. This will enable the identification of the benefits common in the supply chain because too many studies analyze these elements in isolation (Fawcett, Ogden, Magnan & Cooper, 2006; Gereffi, Humphrey & Sturgeon, 2005; Veen-Dirks & Verdaasdonk, 2009; Wathe & Heide, 2004). Furthermore, there are many critical elements, such as IT, that are necessary for succeeding in the supply chain (Chen & Paulraj, 2004).

There are several studies analyzing IT in SCM (Zhang, Donk & Vaart, 2011). However, only a few studies combined SCG and IT (Bitran, Gurumurthi, & Sam, 2006; Gosh and Fedorowicz, 2008). Bitran, Gurumurthi and Sam (2006) argue that IT comes into play as an enabler and has led to fundamental changes in supply chain behavior and further to the changes in their governance. Gosh and Fedorowicz (2008) pointed out that IT is used for coordination activities and for information sharing among supply chain members, depending on the existence of a cohesive set of communication-enhancing governance processes. Thus, it is necessary to analyze and think about how IT is being used in SCG activities and processes.

According to Ruiz-Torres, Mahmoodi and Ayala-Cruz (2012) the last two decades have witnessed a change in the role of Latin American countries in the global economy. As a consequence their greater role, Latin American businesses and their supply chains have gained prominence. These authors carried out a review of the supply chain literature about Latin American countries identifying Brazil as the main subject of study. This could be explained by the fact that Brazil is experiencing its fastest economic growth in almost two decades (Businessweek, 2010), achieving sixth place in global economic ranking in 2011, overtaking the U.K (Forbes, 2011). Moreover, according to Forbes (2012), 33 companies from Brazil gained presence on its list the previous year. Thus, the aim of this study is to identify the most prominent SCG conception – relational and transactional in Brazilian supply chains and to investigate how IT investment supports and relates to this type of governance.

We apply a qualitative approach to achieve these objectives. We explored each SCG conception with its respective elements, explored how IT is related to and support each conception, and determined which of the conceptions predominates in each supply chain as well as the role of IT in this scenario. We carried out case studies in two different Brazilian supply chains (automotive and electrical/electronic), covering 6 companies and 10 interviews.

The rest of the paper will proceed as follows: In the following sections we present the theoretical background of this study followed by an explanation of the methodology used presenting the approach to data analysis. This is followed by the findings, discussion and conclusions.
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