



## Sustainable supply management: An empirical study

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### ABSTRACT

Sustainable business development has received much attention over the past decade owing to the significant attention given by governments and both profit and not-for-profit organizations to environmental, social and corporate responsibility. The emergence of a changing economic order has also made companies around the world seriously think about manufacturing and service sustainability. Global markets and operations have prompted companies to revisit their corporate, business and functional strategies in addition to focusing on outsourcing, virtual enterprise and supply chain management. Sustainability research on supply management has received limited attention. Nevertheless, considering the physically disbursed enterprise environment, supply management is critical for organizational competitiveness. Realizing the importance of sustainability in supply management, an attempt has been made to develop a theoretical framework and then to study the framework by means of an empirical study using perceptions and practices of selected French companies. Finally, a summary of findings and conclusions are reported.

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### 1. Introduction

In recent years, supply chain management (SCM) has received a great deal of attention from practitioners and scholars. In a physically distributed enterprise environment, outsourcing has become an integral part of supply chain management. This indicates the role of supply management in order to ensure the competitiveness of supply chains. Moreover, the sustainability of supply chains relies on the sustainable supply management considering the fact that even manufacturing has become more of a service in which various resources are traded as commodities. Therefore, sustainability in supply chain management is critical for the success of whole supply chain management. Nevertheless, “only recently have the logistic, operations management and supply chain management research groups started publishing more about the implementation of sustainability in supply networks” (Van Bommel, 2011) and the burgeoning body of literature addressing the issue of sustainability (Kleindorfer et al., 2005; Jayaraman et al., 2007), considered it as a key dimension of corporate social responsibility (CSR) (Pagell et al., 2008). In recent years, an increasing number of special issues on sustainability and sustainable SCM in recent years have been edited in

the Journal of Operations Management (Linton et al., 2007), International Journal of Production Economics (Piplani et al., 2008), Journal of Supply Chain Management (Pagell et al., 2008), Supply Chain Management: an International Journal (Lindgreen et al., 2009), and Journal of Cleaner Production (Baumgartner, 2011). More and more companies take this new issue into account by editing sustainable development reports, by setting up dedicated sustainable structures or by employing sustainable development experts. Min and Galles (1997) explore “green purchasing” to determine the key factors affecting a buying firm’s choice of suppliers.

Our research is based on the assumption that it is currently essential and compulsory for companies to integrate sustainability issues in their SCM (Wolters et al., 1997). Handfield et al. (2002) highlight that upstream partners, and more precisely, suppliers, are frequently the most concerned with environmental preoccupations. Several examples of companies underline the importance of this trend. Since 2003, Ford Motor Company requires its suppliers to have ISO 14001 certification and more than 5000 collaborators have been effected by this decision. Similarly, companies such as Adidas, Nike and Sony have also taken steps toward increased sustainability with their suppliers. These “success stories” should not, however, overshadow reality. Lots of companies experience difficulties with their sustainable business development management even if they agree that nowadays their activity depends considerably on their responsibility towards their partners and stakeholders (Dyllick and Hockerts, 2002). Indeed, taking

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environmental issues into account influences the company's upstream relationships (Beske et al., 2008) and its downstream customers.

From this perspective, Seuring and Müller (2008) point out a deficit of research dealing with sustainable development. Sustainable development is defined as “a development that meets the needs of the present without compromising the ability of future generation to meet their own needs” (WCDE, 1987). It relies on the economic, environmental and social dimensions. Ho et al. (2010), observe that green concerns are increasingly used as supplier selection criteria. Taking this perspective, in this paper we study the sustainability of upstream SCM considering the fact that supply management (strategic alliances, supplier selection and its criteria) plays a major role in supply chain management. The main objective of our research is to investigate whether “sustainable sourcing” can positively impact company image and enhance the drive for business sustainability (Walton et al., 1998; Hall, 2000; Bowen et al., 2001).

The organization of the paper is as follows: Section 2 reviews some selected literature on Sustainable Supply Chain Management (SSCM) and the importance of supply management sustainability. A theoretical framework for Sustainable Supply Management (SSM) is proposed in Section 3. Section 4 discusses the research objectives and methodology employed. The results of the empirical data analysis are presented in Section 5. Section 6 includes a summary of findings, conclusions and future research directions.

## 2. Literature review

In this section, we review the literature available on sustainable supply chain and management in order to identify the gaps between theory and practice and then develop a framework for sustainable supply management.

Mentzer et al. (2001) defined supply chain management as, “the systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole”. More recently, Lambert et al. (2006) state that it refers to “the integration of key business processes from end-user through original suppliers, that provides products, services, and information that add value for customers and other stakeholders”. There is a large and consistent body of literature dealing with sustainability in supply chain and special issues have been edited on this subject.<sup>1</sup> This indicates importance of measuring the sustainability of a SCM. Taking sustainability into account in practice, however, requires broadening SCM strategies, as “it is critical to move forward to the systemic issues that exist at the intersection of sustainability, environmental management and supply chain” (p. 1075, Linton et al., 2007). From this perspective, Seuring and Müller (2008) point out the need to take into account the three bottom line approach in the management of sustainable supply chain. A wider range of issues (for example risk management) and a longer part of the supply chain (minor product suppliers' management) have to be incorporated in Sustainable Supply Chain Management (SSCM). This means that SSCM call for a more cooperation among partnering companies in order to make the supply chain operational and to reach sustainable performance. In this new context, environmental and social criteria have to be

integrated in the performance objectives for single companies but also for the management of the whole supply chain (Bai and Sarkis, 2010). Social, environmental and economic factors must be taken into account and added to more usual operations set of performance criteria (quality, cost, flexibility). Synthesizing prior research by Srivastava (2007) and Seuring and Müller (2008), a concept of sustainable supply chain has been developed. Though information systems and technologies, transportation, warehousing, logistics networks have been integral components of SCM, factors such as environmental purchasing, manufacturing, R&D and distribution emerge as common themes in SCM.

Sustainability has become a significant concern for companies that integrate environmental and social issues in their strategy (Srivastava, 2007). Today, firms are aware of the importance of their partners' sustainable responsibility in their own development (Dyllick and Hockerts, 2002; Bai and Sarkis, 2010) and environmental sustainability of any organization is impossible without incorporating Sustainable Supply Chain Management (SSCM) practices (Preuss, 2005). Taking this idea further, Preuss (2005) outlines those environmental benefits that diminish if companies adopt SSCM practices within their boundaries, yet do not incorporate their partners in the process. This means that for sustainability to be durable, companies must “build” beyond their own borders. Upstream and downstream partner implication plays a major role in supply chain performance (Awasthi et al., 2010) and customer satisfaction (Bacallan, 2000; Carter et al., 2000; Bai and Sarkis, 2010). However, this approach has to be undertaken from a win-win perspective where each partner acts in environmentally friendly ways by reducing resource utilization, reducing waste and improving productivity (Wu and Dunn, 1995). By minimizing their green impact, companies consider the environment as an opportunity upon which they can build a competitive advantage (Rao and Holt, 2005). The environment ceases to be a constraint and becomes a collective concern to be tackled in a green supply chain approach (Beamon, 1999).

The issue of SCM has to be broadened to include environmental, social and economic issues to become sustainable. Carter and Rogers (2008) define Sustainable Supply Chain Management (SSCM) as “the strategic, transparent integration and achievement of an organization's social, environmental and economic goals in the systemic coordination of key inter-organizational business processes for improving the long-term economic performance of the individual and its supply chain”. This means that specific environmental performance criteria have to be applied by all the supply chain partners (Awasthi et al., 2010) and simultaneously, promotion of responsible corporate environmental behavior must be encouraged (Lu et al., 2007). Helping suppliers recognize the importance of resolving environmental issues and supporting them in installing their own improvement initiatives is a major issue that companies have to address today. Sustainability of any organization is impossible without incorporating SSCM practices and environmental benefits diminish if downstream and upstream partners are not integrated in sustainable practices as well (Preuss, 2005; Bai and Sarkis, 2010).

External pressures encourage companies to adopt SSCM practices. Companies need to increase their external legitimization to fit socially constructed systems of norms, values, beliefs and definitions (Darnall et al., 2008). Regulatory pressures play a major role in this process as they oblige companies to adopt SSCM practices. They can negatively impact performance via penalties and fines in those firms that do not respect the regulations. Meanwhile, environmental programs, grants, partnerships, etc., positively influence organizations and encourage them to set up SSCM practices, providing benefits when companies undertake pro-active environmental strategies. Indeed, pro-active engagement in sustainable practices lowers the risk

<sup>1</sup> For example: Supply Chain Management in sustainable environment, *Journal of Operation Management*, 25(6) and Sustainability and Supply Chain Management, *Journal of Cleaner Production*, 16(15), 2008.

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