



Accelerating the transition towards sustainability dynamics into supply chain relationship management and governance structures



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A B S T R A C T

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Stakeholders and competitive priorities drive profit and non-profit organizations towards the implementation of sustainability-related measures, in their internal operations, and in their supply chains planning. It is believed by some that investments in sustainability may help them to attain more successful futures by maintaining a healthy balance among economic, environmental, and social resources/dimensions. Consequently, some organizations have begun to integrate these dimensions in recent years. Researchers and practitioners are also working to accelerate the transition for more equitable, sustainable, post-fossil carbon societies by working with all relevant stakeholders. This Special Volume of *Journal of Cleaner Production* is focused upon on diverse types of supply chain relationships, governance mechanisms, and innovations, which can foster effective and efficient sustainable supply chain management. This volume is comprised of twenty-seven articles and a book review. Fifteen of the articles address the supply chain relationships domain, while five focus primarily upon governance, five upon innovation, and two on relationships and governance. However, there is a huge potential to further explore the opportunities towards achieving sustainability by implementing proper governance mechanisms and eco-innovation strategies. Research from low-income countries dealing with sustainability issues are also urgently needed.

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1. Introduction

Over the past two decades, driven by the increasingly important concerns raised by environmental, social, and economic issues, the concept of sustainability has become a prime challenge in today's competitive world for businesses to include in their supply chain entities (Sancha et al., 2016). Although several definitions of the sustainability concept exist, the corporate sustainability (CS) concept is gaining greater interest among researchers and practitioners (Linnenluecke et al., 2009). This growing interest is largely because the concept of CS considers four major dimensions, namely, economic, environmental, social, and time (Lozano et al., 2015). According to Lozano (2012), the term corporate sustainability is defined as “Corporate activities that proactively seek to contribute to sustainability equilibria, including the economic, environmental, and social dimensions of today, as well as their

inter-relations within and throughout the time dimension while addressing the company's system (including Operations and production, Management and strategy, Organizational systems, Procurement and marketing, and Assessment and communication); and its stakeholders” (Lozano et al., 2015). Hence, a standard and quality sustainable business activity can be achieved over a long term by paying more attention towards the CS approach. Because sustainability has to be achieved all along the whole supply chain and not be focused only upon one particular supply chain entity, it is essential to incorporate sustainability into the traditional supply chain management context, which has led to the emergence of the term ‘sustainable supply chain management’ (SSCM) (Pagell and Wu, 2009).

According to Seuring and Müller (2008a), the term SSCM is defined as “the management of material, information and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development, i.e., economic, environmental and social, into account which are derived from customer and stakeholder requirements.” To achieve an effective SSCM, the term sustainable

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development must be clearly understood. Therefore, the term sustainable development is defined as “a development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (WCED, 1987; Seuring and Müller, 2008a).

In spite of complex supply chain global networks, to gain the objectives of SSCM, effective decision making teams are required through various stable interrelationships and cooperation among supply chain entities. In particular, effective and efficient supply chain relationships and sustainable collaborations can enhance sustainable performance (Rota et al., 2013). Such multi disciplinary collaborations are to be made in a more innovative sense among the supply chain actors (Pagell and Shevchenko, 2014; Jabbour and de Sousa Jabbour, 2016). To manage such relationships and collaborations, some effective governing mechanisms are to be formulated by the organizations (Gimenez and Tachizawa, 2012; Formentini and Taticchi, 2016). Since governing strategies can foster high impact on an organization's sustainability management by diminishing opportunism and eliminating clashes, an effective and well-defined governing strategy will likely improve their sustainable performance. Therefore, a good understanding of the various variables influencing the organization's governance is required (Sancha et al., 2016). It is evident from the literature that greater sustainability performance can be attained only if the organizations have an ability and the will to consider more innovative ideas (Pagell and Wu, 2009; Christmann, 2000). In order to attain sustainable development along the supply chain, various factors such as governance mechanisms, collaborative relationships, and innovations are essential. Finally, these actions can help the organizations implement successful SSCM, which in turn may result in attainment of a long-term competitive advantage in their global supply chain.

Previous Special Volumes of the *Journal of Cleaner Production* addressed the theme of green supply chain and sustainability issues (Seuring and Gold, 2013; Dhingra et al., 2014). With this Call for Papers (CFPs), the editorial team sought to narrow the target, for which a much deeper understanding is necessary to analyze the diverse relationships, governance, and innovation in a world with dynamic sustainability forces. This Special Volume (SV) is comprised of twenty-seven papers and a book review. The papers are categorized into three main themes: 1). relationships, 2). governance, and 3). innovations. In terms of methodology used, we have broadly categorized the selections into conceptual, empirical, modeling, and review areas; the analytical models papers and MCDM papers are included in modeling category.

The introduction to this SV is structured as follows: In Section 2, we provide a broad overview of literature on sustainable supply chain management. In Section 3, we present an overview of the papers included in this SV. Finally, in Section 4, we offers conclusions with some recommendations for future research.

2. Literature on sustainable supply chain management

To provide the overview of this SV, initially a broad search was conducted to document the number of papers published in the area of ‘sustainable supply chain management.’ In this section, the Scopus and the Thomson Reuters ISI Web of Science databases were accessed. By searching through them, the number of papers found were 4121 and 2188 respectively. The search term includes sustainable supply chain without any double quotation marks and the search period used was from 1993 to 10 Oct 2015. An overview of the number of articles is presented in Fig. 1. After looking into the journal specific search, it was evident, as demonstrated in Figs. 2 and 3, that the *Journal of Cleaner Production* was the leading journal in terms of numbers of papers from both databases. The ranking of all the journals was the same in Scopus and ISI Web of Science

except for the rank 5. In ISI Web of Science (Fig. 3), two journals, *Sustainability* and *Computer Aided Chemical Engineering* were ranked equally at 5th rank.

In order to further refine the search, the Scopus database was accessed with the search term of “sustainable supply chain” in the title of the paper. In this search, the document type “erratum” was excluded, because it contains one erratum paper with small corrections to the previously published abstract and one retracted article. Also, the conference papers, notebook chapter, book and short survey were excluded. After excluding these two articles, a total of 194 papers were considered. The document types considered in this section included articles in press, reviews, and editorials. The overview of document types is shown in Fig. 4.

An overview of the subject areas explored is shown in Fig. 5. From Fig. 5, it is evident that the five top most influential subject areas in the sustainable supply chain are: business, management and accounting with 121 papers, engineering with 61 papers, decision sciences with 51 papers, social science with 50 papers, and environmental sciences with 43 papers.

The ten top journals that published the subject area are shown in Fig. 6. The *International Journal of Production Economics* ranked first with twelve documents and the *Journal of Cleaner Production* ranked second with eleven documents. For more details about other rankings, refer to Fig. 6.

The number of SSCM papers contributed according to country of origin were analyzed; the top fifteen countries are shown in Fig. 7. The United States led the list with 43 documents followed by the United Kingdom with 30 documents, Germany with twenty-one documents, China with twenty documents, and India with eleven documents.

The top fifteen authors who contributed to SSCM subjects are shown in Fig. 8.

To conclude this section, a summary of the top fifteen most frequently cited articles is provided in Table 1. The increasing interest in this research area provides solid evidence that this SV is timely and especially relevant for the authors and readers of the *Journal of Cleaner Production*.

3. Overview of the papers in this SV

The CFPs (Govindan, 2013) invited submissions on supply chain relationships, governance structures, and innovation for seeking to achieve sustainability. The CFPs attracted a wide range of papers. A total of 135 papers were received; after a rigorous review process, twenty-seven papers and a book review were selected for inclusion in this SV. They are summarized within three topical areas: (1) supply chain relationships, (2) governance, and (3) innovations. Table 2 provides an overview of the twenty-seven papers and the book review included in this SV in terms of theme representation, type of article, problem addressed, methodology chosen, and case study origin. From Table 2, it can be seen that some of the authors contributed to more than one theme.

The most important drivers of achieving sustainability in the supply chain are relationships between the entities of the supply chain, governance mechanisms, and innovation. A few examples may be interrelated to relationships, including those that may consider creating a relationship between a supplier and a customer to address sustainability pressures and to improve their performance; sub-suppliers' relationship can address joint sustainability concerns; competitor relationships which jointly work on innovative sustainable initiatives; and inter-sectoral relationships in which the inter-relationships of governments, NGOs, community institutions, professional organizations with corporations and organizations attempt to address sustainability concerns. A few governance examples include the role of governance systems, role of public–private participation, role of voluntary participation, and

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