Chapter 98
Integrated Sustainable Supply Chain Management:
Current Practices and Future Direction

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ABSTRACT

In today's sustainable world the thinking should be what is the life cycle costs, resources or supply chain process. The rapid industrialization had caused negative impact on the environment because of the increase in the pollution, waste, and rapid consumption of natural resources. This chapter is reviews the previous literature on current practices and future direction of Sustainable Supply Chain Management (SSCM), thus, it can increase practitioner's understanding of the importance and value of sustainable supply chain practices. A wide literature review is conducted to identify the relative important factors constitute of Sustainable Supply Chain Integration framework. Content analysis is introduced and applied for reviewing literature reviews of supply chain management, published in English-speaking peer-reviewed journals between 2000 and 2014. A descriptive evaluation of the literature body is followed by a content analysis on the basis of a specific pattern of analytic categories derived from a typical research process. With best understanding the concept of SSCM and gap identification from literature review, this chapter can contribute to extended model of SSCM and enhance firm competitiveness. This understanding is vital due to the increase of economic importance of sustainable supply chains in addition to their role in enhancing competitive power of companies in international markets.

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INTRODUCTION

Sustainable Supply Chain Management (SSCM) emerges as a new systematic environmental approach in supply chain management. SSCM has been increasingly accepted and practices by forward-thinking organization. The current changing in environmental requirements that influenced manufacturing activities had increased attention of scholars and practitioners in developing environmental management strategies for the supply chain. The growing importance of sustainable supply chain management is driven largely by the escalating deterioration of the environment, expanded legislation, intensified global competition, and value-seeking initiatives. Generally, adding the 'green' component to supply chain management involves addressing the influence and relationships between traditional supply chain management and the natural environment. As a result, sustainable supply chain management assists to lower the environmental impact of a firm, enhance its business efficiency, and possibly create major competitive advantages through operations and innovations.

Most organizations are paying attention to go greener their business strategy and practices as concern to environmental sustainability. They have realized the greater benefit of the green technology adoption in business operation, which also affected company eco-system included suppliers, distributors, retailers and other supporting companies such as third party logistics (3PL). As a result, sustainable supply chain management emerges as a new systematic environmental approach in supply chain management and has been increasingly accepted and practices by forward-thinking organization (Zhu & Sarkis, 2004).

The current changing in environmental requirements that influenced manufacturing activities had increased attention in developing environmental management strategies for the supply chain (Beamon, 1999). Thus, the concept of sustainable supply chain integration arises as a new systematic approach and becoming an important factor for business activities today. Zhu (2010) claimed that sustainable supply chain can be regarded as an environmental innovation. By integrating the 'green concept and sustainability to the supply chain' concept, it has created a new research agenda where the supply chain will have a direct relation to the environment and economic.

Sustainable supply chain management involves integrating environmentally and financially viable practices into the complete supply chain lifecycle, from product design and development, to material selection, (including raw material extraction or agricultural production), manufacturing, packaging, transportation, warehousing, distribution, consumption, return and disposal. Environmentally sustainable supply chain management and practices can assist organization in not only reducing their total carbon footprint, but also in optimizing their end-to-end operations to achieve greater cost savings and profitability. All supply chains can be optimized using sustainable practices. Sustainability in the supply chain encapsulates a number of different priorities such as environmental stewardship, conservation of resource, reduction of carbon footprint and financial savings and viability and social responsibility.

A concept of sustainable supply chain requires a change in how supply chains are designed and managed through explicit consideration of economic, environmental, and social performance measures in strategic, tactical, and operational decision making. An integrated sustainable supply chain, involves life-cycle management. The concept of a sustainable supply chain covers every stage in manufacturing, from the first to the final stage of the lifecycle. The definition of sustainable supply chain has ranged from green purchasing to an integrated green closed-loop supply chain. The adaptation of supply chain can be at any of the following stages, product design, material sourcing and selection, manufacturing processes, delivery of the final product to the consumer, and end-of-life management of the product after its useful life. The literature contains various definitions on sustainable or green supply chain.