

# Chapter 5

## Green Supply Chain Management Theory and Practices

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### ABSTRACT

*Increases in environmental problems require companies to be more aware towards the environment and take precautions regarding the problems. As a result, companies have started to embrace the concept of green supply chain which includes environmental issues rather than the concept of supply chain which is based on profitability. Green supply chain (GSC) has emerged as an important component of the environmental and supply chain strategies. In order to make a supply chain green, it is necessary to consider all activities in the supply chain such as raw material procurement, inbound logistics, transformation, outbound logistics, marketing, after-sales and appropriate product disposal. This paper aims to review different GSCM dimensions in the literature by explaining green supply chain concept and address the activities/practises that can be used to ensure these dimensions are green.*

### INTRODUCTION

In recent years, companies have been obliged to reformulate their environmental policies due to increases in environmental problems caused by products. However; implementing the reformulated environmental policies only in the scope of specific companies has not been sufficient to decrease the environmental damages of the products in question. Therefore, the requirement to extend companies' environmental activities to include the whole supply chain has been instrumental in the concept of green supply chain management (GSCM). This is a multidisciplinary concept generated by constructing environmental management practices in the context of supply chains (Eltayeb, Zailani, & Ramayah, 2011). With the addition of environmental issues to supply chain management concept, the context has been extended

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so that each step from organization's materials management and transportation functions to the end customer can be structured to include environmental awareness (Simpson & Power, 2005). Hence, it can be argued that GSCM has a wide field of activity. The fact that GSCM is a new and broad field which is developed day by day brings some challenges as well. In this sense, one of the most important challenges is the creation of a holistic framework related to GSCM dimensions/practises. As a result, it is necessary to present the dimensions of green supply chain management in order to comprehend it better. With this aim in mind, this study sets out to examine different GSCM dimensions.

First of all, the study will address the concept of GSCM, followed by a review of green supply chain management practices which in turn will be examined in more depth in the form of sub-titles.

## **BACKGROUND**

### **Green Supply Chain Management**

Today, various environmental problems, such as environmental pollution, global warming, rapid depletion of resources and decreases in biological diversity, have emerged. Companies which are regarded as the cause of these environmental problems have had to review their production processes and their supply chains as a whole after pressures from the society and governments. All parts of the traditional supply chain, including raw materials, production, distribution, consumers and waste can be a source of environmental pollution (Rostamzadeh, Govindan, Esmaili, & Sabaghi, 2015). Therefore, to protect the environment, greening is required for all activities in the context of supply chain (purchase, design, production, distribution and disposal). Based on this premise, the concept GSCM started to be a main topic of discussion in the early '90s (Zhu & Sarkis, 2006) and it has been examined under various different names throughout the process; such as (Sarkis, 2012);

- Sustainable supply network management.
- Corporate social responsibility networks.
- Environmental supply chain management.
- Green purchasing.
- Environmental procuring or purchasing.
- Green logistics and environmental logistics.
- Sustainable supply chain.

Recently, a series of green supply chain definitions have been provided. Narasimhan and Carter (1998) defined environmental supply chain management as addition of activities related to recycling, reducing and reuse of materials to purchase functions (Zsidisin & Siferd, 2001). This definition provides a good starting point to understand the environmental activities in the supply chain. But, the definition tackles environmental issues only from the perspective of purchasing. Also, the definition does not touch upon the holistic and synergic effect of inter and intra organizational practises on the natural environment (Zsidisin & Siferd, 2001).

Zsidisin and Sifer (2001) defined green supply chain management as the formation of supply chain management policies during the design, distribution, use, recycling and disposal of company products and services by taking the natural environment into consideration.

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