

## Chapter 53

# Green Supply Chain Management: Implications for SMEs

**Ki-Hoon Lee**

*Griffith Business School, Griffith University, Australia*

### **ABSTRACT**

*The strategic importance of supply chain management has been increasing during the past two decades. Companies utilise the supply chain in order to become more competitive as a whole. Recently, it has been observed that environmental and social pressures and standards have a direct and indirect impact on supply chain management and the competitiveness of corporations. Integrating environmental criteria into supply chain management has become an important strategic issue for many companies. This study explores the subject area of the greening of supply chain management. In particular, the supply chain environmental management (SCEM) programme is explored in the Korean context. The SCEM programme is based upon the relationship between buyers and suppliers. By utilising this relationship, general improvement in the environmental performance of suppliers can be achieved. A case study of Hyundai Motors Co. (HMC) empirically supports this. Green supply chain management led to new ways of collaboration with suppliers, in terms of developing environmental solutions and capacity buildings with key suppliers. The key implication for suppliers, in particular SMEs, is to develop suppliers' capabilities and increasing supplier criticality in order to achieve win-win outcomes in environmental and financial performance.*

### **INTRODUCTION**

In recent decades, a number of companies have begun to realise that material and service inputs from suppliers have a major impact on their ability to meet customer needs and market demands.

This has led to an increased focus on the supply base and the responsibilities of purchasing. Recently, environmental and social criteria have become important parts of supply management. For example, the consumer electronics giant Sony Electronics sought suppliers who could help solve environmental problems, as suppliers were being hit with the same demands and regulations as Sony.

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Sony adopted environmental performance as a criterion to select suppliers that exceed regulatory requirements and who also try to work with environmentally sound suppliers themselves. This also brought about new product development as suppliers were helping to develop new products. Referred to by Sony as 'Green Partnership', this corporate strategy focuses on retaining environmentally and technologically sound key suppliers who do not have to be audited for business development and partnership.

The case of Sony Electronics indicates the strategic importance of extended responsibility of supply chain management. Traditionally, supply chain management only focused on the efficient and responsive system of production and delivery from the raw material stage to the final consumer. Currently, environmental pressures from consumers, governments, and the media present a great challenge for managers to integrate sustainable practices in managing their supply chains. For example, the European Union (EU) has mandated implementation of an electronic waste recycling and reduction system, known as the Waste Electrical and Electronic Equipment (WEEE) Directive. Under the WEEE Directive, every country has to recycle at least 4 kg of electronic waste per capita per year. When the WEEE Directive came into effect in February 2003, all of the EU member states adopted it as national law. The directive gives financial and physical responsibility to equipment manufacturers for the products they produce.

Whereas the WEEE Directive is designed to manage electronic waste, the EU has also taken further steps to reduce the amount of waste that is actually produced. The Restriction of Hazardous Substances Directives (RoHS) was adopted in February 2003 by the EU. The directive restricts the usage of six hazardous materials in the manufacture of certain types of electronic equipment: These materials include lead, mercury, cadmium, hexavalent chromium, polybrominated biphenyls (PBBs) and polybrominated diphenyl ether (PBDE). The directive sets the maximum

concentration of these materials at 0.1 percent (cadmium is much lower at 0.01 percent) by weight of homogenous materials (Wright and Elcock, 2006). The EU directives on WEEE and RoHS sent strong signals to Asian governments to adopt 'green' standards and regulations, even to national and multinational companies operating in Asia. A group of companies with headquarters in Korea face this 'green' challenge, which especially demands a closer look at their supply chain and suppliers' performance with full responsibilities regarding 'green compliance'. In the case of the electronics industry, the management of suppliers' environmental problems by large companies has been a growing issue in relation to recent product-related environmental regulations such as WEEE and RoHS as well as for reasons of environmental and/or social responsibility.

The term *supply chain environmental management* (SCEM), often exercised by large powerful buying companies in the supply chain, refers to a response to green and/or environmental concerns with regard to the design, acquisition, production, distribution, use, reuse, and disposal of a firm's goods and services. More recently, large-sized customer (buying) companies also require their suppliers to improve their environmental performance. These companies are adopting relevant activities and tools in order to effectively and efficiently control their suppliers (Lee, 2007; Lee and Kim, 2009).

In this chapter, the strategic importance of the greening of supply chain management is explored within the Korean context. The growing importance of environmental management practices in businesses requires purchasing management and value chain managers to re-evaluate their actions owing to the link between value chain activities and a company's environmental performance (Hart, 2005). As such, many corporations have taken greater interest in external value chains due to rapid change in the management environment, and have recognised that their competitiveness depends not only on their own internal capability but also

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