



The benefits of greening the supply chain

Green supply chain management (GSCM) is a holistic approach to improving environmental performance along the supply chain. A new study by Italian researchers on over 4000 manufacturing facilities in seven developed countries has indicated that GSCM increases environmental performance.

More and more companies and retailers are adopting GSCM. It has also been suggested that it could be used to identify environmental 'hotspots' in the supply chain as targets for reducing emissions. However, many factors still hinder the adoption of GSCM, especially by SMEs.

Much research has looked at the external factors that influence GSCM. This study explored internal factors, such as strategic motivations, existing environmental strategic management (ESM) and competitive advantage. It analysed survey data collected by the Organisation for Economic Co-operation and Development (OECD) of over 4000 manufacturing facilities with at least 50 employees. The facilities were in Canada, France, Germany, Hungary, Japan, Norway and the United States and the data covered all manufacturing sectors. It analysed two specific GSCM practices: assessment of suppliers' environmental performance and imposing requirements on suppliers to meet certain environmental criteria.

The results indicated that the main motivating factor to adopt the two GSCM practices was to enhance the firm's reputation and improve market image. Becoming a market-leader through innovation was another motivation for taking up GSCM, as was the pressure to follow others who are either partners or competitors.

Efficiency was not a determinant of GSCM. This was because it was generally perceived that GSCM involves considerable initial investment and any payback would only be yielded in the long-term. Pre-existing environmental management strategies were strongly influential in the adoption of GSCM and appeared to act as an 'engine' to start up and boost the development of GSCM.

As a managerial tool it appeared that GSCM was effective at improving environmental performance. The study evaluated this in the areas of natural resource use (energy and water), waste generation and wastewater emission. Examples of GSCM impacts included buying electricity from providers with significant shares in renewables and ensuring providers of wastewater treatment apply environmental criteria to their use of chemicals.

The study indicated that GSCM did not have such a substantial impact on competitive performance in terms of the profitability of a firm. This could be because the assets of GSCM are more intangible and do not result in short-term increases in profitability. Impacts such as improved reputation and innovation take time to affect profits.

In addition, profitability does not address the whole concept of competitiveness which was highlighted as a limitation of the research. More long-term and holistic measurements of competitiveness may have yielded more positive results. The researchers also pointed out that the analysis only considered two GSCM practices. There are several other practices that could contribute to GSCM, such as contribution to eco-design initiatives and supplier development programmes.

Source: Testa, F. & Iraldo, F. (2010). Shadows and lights of GSCM (Green Supply Chain Management): determinants and effects of these practices based on a multi-national study. *Journal of Cleaner Production*. 18:953-962.

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