Design and Planning of Closed Loop Supply Chains

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To be printed as a chapter book in the book:
Supply Chain Optimization, eds L. Papageorgiou, M. Georgiadis

1 Introduction

Traditionally, supply chains (SC) have been defined as logistics systems that start with the supply of raw-materials and end with the sales and distribution of goods to final consumers. An efficient management of the supply chain is a major challenge, which has captured the academia attention. For the last 20 years, the number of published papers has been growing consistently.

Even with all this awareness, the supply chain is far from being studied. There are new problems appearing, new ways of regarding companies as organizations and social partners, new forms of collaboration among companies, as well as new commitments and responsibilities of companies towards the modern society. Consumers and companies are changing their objectives. These are not strictly related to cost, quality and level of service but also include environmental aspects. Business are recognizing the importance of the environmental performance of their products and processes. All these factors contribute to change the way of looking into the supply chain systems.

Most products once used, continue to exist and, consequently, it is necessary to decide how to handle them. Until the 80’s, the most frequent decision was simply a disposal option. More