

Bi-Criteria Objective Network Design Model for Multi Period Multi Product Green Supply Chain

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Abstract : Environmental performance along with social performance is becoming vital factors for industries to achieve global standards. With a good environmental policy global industries are differentiating them from their competitors. This paper concentrates on multi stage, multi product and multi period manufacturing network. Bi-objective mathematical models for total cost and total emission for the entire forward supply chain are considered. Here five different problems are considered by varying the number of suppliers, manufacturers, and environmental levels, for illustrating the taken mathematical model. GA, and Random search are used for finding the optimal solution. The input parameters of the optimal solution are used to find the tradeoff between the initial investment by the industry and the long term benefit of the environment.

Keywords : closed loop supply chain, genetic algorithm, random search, green supply chain

Conference Title : ICSSC 2015 : International Conference on Sustainable Supply Chains

Conference Location : Paris, France

Conference Dates : June 25-26, 2015