Integrated QFD-MCDM Framework for Green Supplier Selection

1Morteza Yazdani (corresponding author), 2Prasenjit Chatterjee, 3Edmundas Kazimieras Zavadskas,
4Sarfaraz Hashemkhani Zolfani

1Department of Business and management, Universidad Europea de Madrid, 28670, Madrid, Spain
2Department of Mechanical Engineering, MCKV Institute of Engineering, West Bengal, India
3Research Institute of Smart Building Technologies, Faculty of Civil Engineering, Vilnius Gediminas Technical University, Saulėtekio al. 11, LT-1022, Vilnius, Lithuania
4Technology Foresight Group, Department of Management, Science and Technology, Amirkabir University of Technology (Tehran Polytechnic), P.O. Box 1585-4413, Tehran, Iran

Abstract
Supplier evaluation and selection is a significant strategic decision for reducing operating costs and improving organizational competitiveness to develop business opportunities. Moreover, with increasing concern towards environmental protection and sustainable development, it becomes important to pay more attention to environmental requirements and evaluating the potential suppliers by incorporating green factors into the selection process. Thus, the aim of this paper is to put forward an integrated approach for green supplier selection by considering various environmental performance requirements and criteria. The proposed approach addresses the inter-relationships between the customer requirements (CRs) with the aid of decision-making trial and evaluation laboratory (DEMATEL) method while constructing a relationship structure. Quality function deployment (QFD) model is used to establish a central relationship matrix in order to identify degree of relationship between each pair of supplier selection criteria and CRs. Finally, complex proportional assessment (COPRAS) applied to prioritize and rank the alternative suppliers. A case study is presented to reveal the potentiality and aptness of the proposed methodology.

Keywords: green supplier selection, decision support system, complex proportional assessment, multi-objective optimization based on ratio analysis, quality function deployment, customer needs.

1. Introduction
Supply chain management (SCM) is a process of systematizing and amalgamating diverse activities, starting from the customer's order to end product delivery in a well-organized manner. The success or failure of any SCM largely depends upon a suitable system and appropriate suppliers. Today's
دریافت فوری متن کامل مقاله

امکان دانلود نسخه تمام متن مقالات انگلیسی
امکان دانلود نسخه ترجمه شده مقالات
پذیرش سفارش ترجمه تخصصی
امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
امکان دانلود رایگان ۲ صفحه اول هر مقاله
امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
دانلود فوری مقاله پس از پرداخت آنلاین
پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات