Supplier Selection in Uncertain Environment: A Fuzzy MCDM Approach

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Abstract

This paper addresses a critical issue of selection of supplier occurred in supply chain of a manufacturing company. As there are lot more criteria present for decision making of suitable supplier selection among many, it becomes more challenging task for any company to make as this decision is entangled with company's profit and time. So, to address this problem, this paper proposes a multi-criteria decision making (MCDM) method using Decision Making Trial and Evaluation Laboratory (DEMATEL) based on Analytic Network Process (ANP), i.e., DANP, with fuzzy Vise Kriterijumska Optimizacija I Kompromisno Resenje (FVIKOR) to judiciously select suppliers based on important criteria and to point out interrelationships among dimensions and criteria in SCM by Network Relationship Map (NRM) for this company. Furthermore, the ranking is supported by sensitivity analysis.

Keywords

DEMATEL-ANP Fuzzy VIKOR Network Relationship Map (NRM) Supplier selection Sensitivity analysis

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