



Identifying, Prioritizing and Ranking the Evaluation Criteria of Green Suppliers by Using AHP, FAHP and TOPSIS

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Abstract

The present study in 2014 is performed aimed to Identifying, prioritizing and ranking the evaluation criteria of Green Suppliers by using AHP, FAHP and TOPSIS in Neyriz cement company. The population and the sample are consisting of the entire senior managers, central managers, and white cement factory's supervisors of Neyriz (68 persons). Structural equations modeling techniques, AHP, Fuzzy-AHP and TOPSIS systems were used to test the research questions. The results of confirmatory factorial analysis and model fitting techniques, showed the relationship authenticity between evaluation criteria of Green suppliers (reprocessing, internal environmental management, pollution level, green distribution and production and their sub-criteria), and approving all research hypotheses. Among the sub-criteria for evaluating the green suppliers, reusing, re-engineering and recycling the products, pollution of water, soil and air by the ultimate product, the recyclability of packaging materials, pollution of water, soil, air, by waste-materials, and green packaging, dedicated the highest rating. The results of the ranking of suppliers based on their green criteria, was performed by AHP and TOPSIS techniques, found that suppliers 1, 3 and 6 are in better conditions.

Keywords: supply chain quality management, competitive advantage, organizational performance, structural equations modeling, and fuzzy cognitive maps.

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