Dimensional Analysis under Intuitionistic Fuzzy Environment for Supplier Selection

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Abstract: Nowadays, supplier selection is an important activity in the performance of any company. Supplier selection is considered as a complex multi-criteria and group decision making problem that involves information that sometimes is vague or incomplete. This study presents a hybrid of Dimensional Analysis techniques with Intuitionistic Fuzzy Sets for supplier selection. The study considers a group of experts and a set of criteria to be evaluated by them for selecting the best alternative. The method uses intuitionistic fuzzy sets for representing qualitative information. A numerical example is presented to demonstrate the effectiveness of the proposed method.

Keywords: Intuitionistic Fuzzy Set, Dimensional Analysis, Supplier Selection, Multi-Criteria