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A NEW HORIZON FOR MULTIPLE ATTRIBUTE GROUP DECISION MAKING PROBLEMS WITH VAGUE SETS

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ABSTRACT

Since its entry in the literature, vague set theory has received more and more attention, because many of the real life problems are information in the form of vague values. For Multiple Attribute Group Decision Making (MAGDM) problems where the attribute weights and the expert weights are real numbers and the attribute values take the form of vague values, a new approach is introduced in this paper. The IVOWA operator is introduced and utilized for aggregating the vague information. The induced vague ordered weighted averaging operator (IVOWA) for vague sets is introduced and a MAGDM model is developed based on the IVOWA operator and the vague weighted averaging (VWA) operator. A simple illustration is presented to show the effectiveness of the proposed mode and a comparison of the proposed model is made with an existing method.

KEYWORDS: Multiple Attribute Group Decision Making, Induced Vague Ordered Weighted Averaging Operator (IVOWA), Vague Sets