

Accepted Manuscript

Title: Discriminative Aggregation Operators for Multi Criteria Decision Making

Author: Manish Aggarwal

PII: S1568-4946(16)30484-7

DOI: <http://dx.doi.org/doi:10.1016/j.asoc.2016.09.025>

Reference: ASOC 3824

To appear in: *Applied Soft Computing*

Received date: 4-1-2016

Revised date: 31-8-2016

Accepted date: 14-9-2016



Please cite this article as: Manish Aggarwal, Discriminative Aggregation Operators for Multi Criteria Decision Making, Applied Soft Computing Journal <http://dx.doi.org/10.1016/j.asoc.2016.09.025>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Discriminative Aggregation Operators for Multi Criteria Decision Making

Manish Aggarwal

Indian Institute of Management Ahmedabad

Corresponding author.
E-mail address: magwal8@gmail.com

Highlights

1. A General Formalism for Aggregation operators.
2. New Operators based on the General Formalism
3. Some New Aggregation Operators for Decision Making Problems.
4. Proposed Aggregation Operators Extended to Int-Fuzzy Domain
5. Illustration through Real Case Study

Abstract – A general aggregation formalism for multi criteria decision making (MCDM) applications is presented, which represents the existing aggregation operators as well as generate the new ones. Using this formalism, we derive the existing operators, and also develop some new aggregation operators. The proposed general formalism is further extended to develop discriminative class of aggregation operators for aiding MCDM. Discriminative operators are based on the consideration of the variability in the various possible evaluations of a criterion, in the given context. Four families of discriminative aggregation operators are developed using the extended formalism. These operators are applied in a managerial real world case-study.

Keywords: Multi criteria decision making; aggregation operator; ordered weighted averaging

1. INTRODUCTION

The study of aggregation operators is a well-established subfield of decision sciences with applications ranging from summarizing information in indices in Economics to fusing DNA sequences in Biology. Almost every multi criteria decision making (MCDM) problem hinges on aggregation operators for aggregation of multi-criteria evaluations of alternatives. The choice of aggregation operator has a direct effect on the optimal alternatives. In the last two decades, several aggregation operators have appeared in the literature.

Download English Version:

<https://daneshyari.com/en/article/4963520>

Download Persian Version:

<https://daneshyari.com/article/4963520>

[Daneshyari.com](https://daneshyari.com)