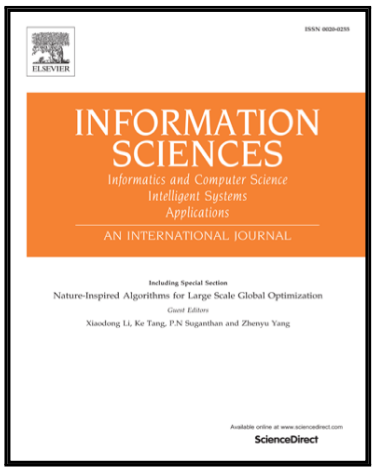
Accepted Manuscript



A new multiple attribute decision making method based on linear programming methodology and novel score function and novel accuracy function of interval-valued intuitionistic fuzzy values

Cheng-Yi Wang , Shyi-Ming Chen

PII: S0020-0255(18)30048-3
DOI: 10.1016/j.ins.2018.01.036
Reference: INS 13390

To appear in: *Information Sciences*

Received date: 22 November 2017
Revised date: 14 January 2018
Accepted date: 19 January 2018

Please cite this article as: Cheng-Yi Wang , Shyi-Ming Chen , A new multiple attribute decision making method based on linear programming methodology and novel score function and novel accuracy function of interval-valued intuitionistic fuzzy values, *Information Sciences* (2018), doi: 10.1016/j.ins.2018.01.036

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.

ACCEPTED MANUSCRIPT

A new multiple attribute decision making method based on linear programming methodology and novel score function and novel accuracy function of interval-valued intuitionistic fuzzy values

Cheng-Yi Wang, Shyi-Ming Chen*

Department of Computer Science and Information Engineering, National Taiwan University of Science and Technology, Taipei, Taiwan

*** Corresponding Author.**
E-mail addresses: smchen@mail.ntust.edu.tw (S.-M. Chen).

Abstract

Score functions and accuracy functions of interval-valued intuitionistic fuzzy values (IVIFVs) play important roles in dealing with multiple attribute decision making (MADM) problems in interval-valued intuitionistic fuzzy (IVIF) environments. In this paper, we propose a new MADM method using the linear programming (LP) methodology and the proposed new score function and the proposed new accuracy function of IVIFVs for overcoming the drawbacks of Wang and Chen's MADM method (2017), which has the drawbacks that the preference order (PO) of alternatives cannot be distinguished in some cases and it gets an infinite number of solutions of the optimal weights of attributes when the summation values of some columns in the transformed decision matrix (TDM) are the same, such that it obtains different POs of alternatives.

Keywords: Interval-valued intuitionistic fuzzy sets; IVIFVs; LP methodology; MADM.

1. Introduction

Some researchers have presented multiple attribute decision making (MADM) methods [2]-[7], [22], [24], [26], [27] using interval-valued intuitionistic fuzzy sets

Download English Version:

https://daneshyari.com/en/article/6856595

Download Persian Version:

https://daneshyari.com/article/6856595

Daneshyari.com