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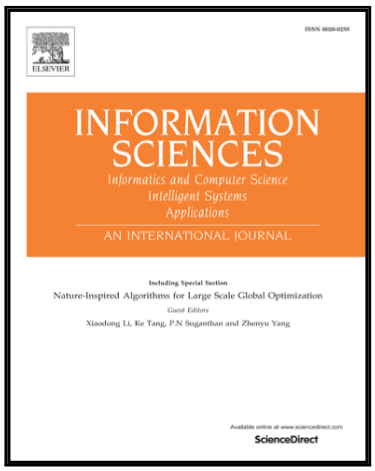

A multiple attribute group decision making method based on two novel intuitionistic multiplicative distance measures

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A multiple attribute group decision making method based on two novel intuitionistic multiplicative distance measures

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Abstract

Distance measure is used to measure the deviation degree between different arguments. Since the existing distance measures between intuitionistic multiplicative sets cannot represent the angle of two intuitionistic multiplicative sets, this paper introduces some new distance measures between intuitionistic multiplicative sets, which include the projection-based distance measure and the psychological distance measures. After that, a multiple attribute group decision making method is proposed to handle the problem in which the weights of experts and attributes are unknown or partially known. A case study concerning the drug supplier selection in hospital management is provided to demonstrate the calculation process of the proposed method. Finally, some comparative analyses are given to illustrate the efficiency and applicability of the proposed method.

Keywords: Intuitionistic multiplicative set; Distance measure; Psychological distance measure; Projection-based distance measure; Multiple attribute group decision making; Intuitionistic multiplicative entropy

1. Introduction

In multiple attribute decision making (MADM) problems, a finite set of alternatives are evaluated by decision-makers (DMs) over different attributes. However, ambiguity always exists due to the vague knowledge of

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