عنوان مقاله:

ELECTRE I-based group decision methodology with risk preferences in an imprecise setting for flexible manufacturing systems

محل انتشار:

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خلاصه مقاله:

A new hesitant fuzzy set (HFS)-ELECTRE for multi-criteria group decision-making (MCGDM) problems is developed in this paper. In real-world applications, the decision makers (DMs)' opinions are often hesitant for decision problems; thus, considering the exact data is difficult. To address the issue, the DMs' judgments can be expressed as linguistic variables that are converted into the HFSs, considered as inputs in the ELECTRE method. Meanwhile, an appropriate tool among the fuzzy sets theory and their extensions is the HFSs since the DMs can assign their judgments for an alternative under the evaluation criteria by some membership degrees under a set to decrease the errors. Introduced hesitant fuzzy ELECTRE (HF-ELECTRE) method is elaborated based on the risk preference of each DM with assigning some degrees. Moreover, the weight of each DM is computed and implemented in the proposed procedure to reduce judgments' errors. Then, a new discordance HF index is provided. Pair-wise comparisons are used for outranking relations regarding HF information. Finally, the validation and verification of the proposed HF-ELECTRE .method are demonstrated in a practical example of FMSs

کلمات کلیدی:

(ELECTRE method, Group decision analysis, HFSs, Flexible manufacturing systems (FMSs