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Summary: Probabilistic language term sets are a powerful tool for expressing the preferences and choices of decision makers for various options. In this paper, in response to the defects in the distance calculation method of probabilistic language term sets, a transfer function is used to redefine the distance measure of probabilistic language sets. A calculation method for improving the probability of language probability is proposed. On this basis, the maximum probability of the group decision matrix is calculated and its weighted square is given, and a multi-objective function is constructed to obtain the unknown attribute weights. TOPSIS and ELECTRE are combined to obtain comprehensive evaluation information for each scheme. Through case analysis and comparative analysis, the effectiveness and feasibility of the method are proved.

MSC: 90B50 Management decision making, including multiple objectives

Keywords: probabilistic language term set; possibility degree algorithms; distance measure; multi-attribute group decision making