FUZZY TOPSIS METHOD FOR ACADEMIC MEMBER SELECTION

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Decision making is the process of finding the best alternative from all of the alternatives. In this study, fuzzy TOPSIS(technique for order preference by similarity to ideal solution) selection which is a multi-criteria decision making method is used. The decision is to select the best academician for the university. Selection criteria are teaching skills, academic experiences, publications and references. The evaluation data of the candidates suitability for subjective criteria and the weights of all criteria are expressed in linguistic terms. Thus a fuzzy extended TOPSIS [1] which was originally proposed by Chen method where the ratings of the alternatives and the weights of all criteria are assessed in linguistic terms represented by fuzzy numbers is proposed. In fuzzy TOPSIS, the decision makers use the linguistic variables — which are converted into triangular fuzzy numbers — to asses the importance of the criteria and to evaluate the each alternative with respect to each criterion. After the fuzzy decision matrix, normalized fuzzy decision matrix and weighted normalized fuzzy decision matrix are obtained, to determine the order of the alternatives, closeness coefficient is calculated by calculating the distances to the fuzzy ideal solution (FPIS) and fuzzy negative ideal solution (FNIS). According to these values, university can determine the order of the alternatives and select the most appropriate academic member.

References

1. Chen, C.T., Lin, C.T., Huang, S.F.,"A fuzzy approach for supplier evaluation and selection in supply chain management"//International Journal of Production Economics, 102, 2006, 289-301