UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

THE DISTANCE SCORE OF HESITANT FUZZY SET IN FUZZY TOPSIS

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ABSTRACT

Distance measure is an important tool in the fuzzy set theory for distinguishing the difference between the values of the elements. Based on the observation, there are several distance measures between hesitant fuzzy sets have been proposed. Hesitant Fuzzy Sets (HFS) is the extension of fuzzy set in which it provides effective tools in dealing with decision making situation when only some values of membership are possible for an alternative on certain criteria. In this study, seven distance based on score functions of Hesitant Fuzzy Set is introduced. Then, the proposed method is integrated with the hesitant fuzzy TOPSIS. After that, the new proposed method is compared with the existing Hesitant Fuzzy TOPSIS. The results illustrate the proposed method has a consistent results except for the distance based on Minimum score function, Maximum score function and Product score function. Therefore, the validity and applicability of our new method proposed is shown.