UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

A COMPARATIVE STUDY ON ENTROPY-TOPSIS AND MEREC-TOPSIS METHODS TO SOLVE THE CLASS REPRESENTATIVE SELECTION PROBLEM

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ABSTRACT

This study is about selecting the best class representative in a public university. In this study, it is focused on the application of Entropy-Technique for Order of Preference by Similarity to Ideal Solution (TOPSIS) and Method Based of the Removal Effects of Criteria (MEREC)-TOPSIS in solving class representative selection problem. This study discusses the problem that a class of a public university commonly has, which is choosing the best candidate for their class representative. The objectives of this study are to integrate the Entropy method and MEREC with TOPSIS methods in solving the class representative selection problem, to select the best class representative by using the Entropy-TOPSIS method and MEREC-TOPSIS method and to compare the outcome between Entropy-TOPSIS method and MEREC-TOPSIS method in solving the class representative selection problem. Four criteria are considered in this study which are experience (C_1), communication skills (C_2), personality (C_3) and leadership skills (C_4). There are five alternatives to be ranked and selected which are A_1, A_2, A_3, A_4 and A_5. The data was collected through a questionnaire and the calculations were done using Microsoft Excel. Entropy and MEREC are the weight calculation methods for the criteria and TOPSIS is the method to rank the alternatives. The ranking order for the most to the least-preferred criteria using both methods are $C_4 > C_1 > C_2 > C_3$. The most preferred criteria was leadership skills (C_4) and the least preferred criteria was personality (C_3). The result for Entropy-TOPSIS and MEREC-TOPSIS revealed that $A_5 > A_4 > A_3 > A_1 > A_2$. It indicates that the best candidate is A_5 while A_2 is the least-preferred candidate to be chosen as the class representative. This result reflects the real situation as the students also chose A_5 as their class representative. Thus, the objective of the study was achieved.