UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT (MSP 660)

SELECTION OF THE BEST SECONDARY SCHOOL STUDENT USING THE CRITIC-PROMETHEE II METHOD

(P11S22)

AHMAD QAWIEM BIN JAMALLUDIN (2021189907)

AHMAD ZULHAKIM BIN AZHAR (2021101581)

ZULAIKHA HUSNA BINTI KHAIRUL ANUAR (2021113897)

SUPERVISOR:

NOR FARADILAH MAHAD

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ABSTRACT

School is an institution or an effective place to transforms knowledge from educators to students and as a means of education. Students learn more information and develop their morals here. In order to inspire each student's excitement for improving the learning process, the best students are chosen over a certain period of time. The selection of the best secondary school student is one of the decision-making problems that can be solved using Multi-Criteria Decision Making (MCDM) method. However, determining criteria weights is a problem faced by many MCDM methods. Therefore, the objectives of this study are to integrate the Criteria Importance Through Intercriteria Correlation (CRITIC) method with the Preference Ranking Organisation Method for Enrichment Evaluations (PROMETHEE) II method in solving the best student selection problem, to rank the secondary school students using the CRITIC-PROMETHEE II method and to perform the sensitivity analysis over the CRITIC-PROMETHEE II method in measuring the consistency of the student ranking in various conditions. A real-life data about the best secondary school student selection for SPM 2021 examination is implemented to demonstrate the application of the CRITIC-PROMETHEE II method. The data involved three decision makers, three alternatives (A, B, C) and five criteria (C1, C2, C3, C4, C5). The findings show that the ranking order of criteria is C4 > C2 > C5 > C3 > C1. Meanwhile, the ranking order of alternatives is A > C > B. Other than that, the sensitivity is performed to validate the results from the study whether there is any influence on the final ranking of the alternatives and the results show that A is still the most preferred alternative. In conclusion, the CRITIC-PROMETHEE II method can be used to analyse the perfect order of secondary school student from best to worst.