

Universiti Teknologi MARA

**Ranking Cafeterias in UiTM Perlis Using
Two Types of Fuzzy TOPSIS Method**

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**Report submitted in fulfillment of the requirements for
Bachelor of Science (Hons.) Management Mathematics
Faculty of Computer and Mathematical Sciences**

June 2019

STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the disciplines.

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ABSTRACT

Cafeteria is the main place for students to get their daily meals inside the campus. Therefore, it plays a crucial role in the university as it supplies as well as sell food and drinks to students, staff and visitors. Nowadays, the percentage of students has increased, and it contributes to the increasing demands of foodservices and consequently raises the competition among cafeterias in the university. Hence, students are having hard time to choose which cafeteria that satisfies their wants and needs. Following from there, the purpose of this study is to select the best criteria in choosing cafeteria in terms of ranking alternatives and to rank the cafeteria. Therefore, in this study the classical Fuzzy Technique for Order Preferences by Similarity to Ideal Solution (TOPSIS) method proposed by Chen in 2000 and the simplified Fuzzy TOPSIS extension proposed by Sodhi in 2012 is used to solve this problem. This study is focused on the criteria of the cafeteria in University of Technology Mara (UiTM) Perlis. The criteria that are considered in this study are price and value fairness, food and beverages quality, food and beverages variety, food and beverages freshness, food and beverages appropriate temperature, environment, cleanliness of plates and glass provided, cleanliness of dining area, staff performance and service quality. Moreover, this study benefits the owner of the catering business, the customers and future researchers. The result of this study is evaluated by using Microsoft Excel spreadsheet. The findings stated that the criteria preferred in this study are price and value fairness, food and beverages variety, food and beverages freshness, environment, cleanliness of dining area and staff performance. These criteria were chosen to be crucial as they yield the highest Best Non-Fuzzy Performance (BNP) value among other criteria. The final ranking order of cafeteria showed the same results for both methods. The results showed that Mangga Cafeteria was ranked first as it has the highest value of closeness coefficients among the four cafeterias whereas the lowest rank goes to Epal Cafeteria as it has the smallest value of closeness coefficients. Finally, this study can be further implemented by using other Fuzzy TOPSIS method, such as Yuen's method, and can be applied in other case study such as restaurants selection problem.

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