

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

A FUZZY AHP APPROACH FOR SELECTION OF
BEST STUDENT:
A CASE STUDY IN UITM KELANTAN

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Report submitted in partial fulfillment of the requirement
for the degree of
Bachelor of Science (Hons.) Mathematics
Center of Mathematics Studies
Faculty of Computer and Mathematical Sciences

JULY 2017

ACKNOWLEDGEMENTS

IN THE NAME OF ALLAH, THE MOST GRACIOUS, THE MOST MERCIFUL

This research is made possible through the help and support from everyone, including lecturers, parents, friends and all experts who involve in completing the questionnaire for this project. Especially, please allow us to dedicate our acknowledgement of gratitude toward the following advisors and contributors:

Firstly, we are grateful to Allah S.W.T for giving us the strength and His unconditional guidance and wisdom to complete this project successfully.

Secondly, we would like to express our gratitude to our supervisor, Madam Siti Nurul Fitriah Binti Mohamed for her most guidance, support and encouragement to us in order to complete this project. This gives us the experience on how to cooperate and engage ourselves in a serious project.

Thirdly, we would like to thank all ten experts who involve in completing the questionnaire for the use in this project. We really appreciate it.

Finally, we sincerely thank to our parents and friends, who have supported us by providing some advice and financial support. This research could not be possible without all of them.

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ABSTRACT

Selection of best student awards has been done in almost every institution of higher education. The participation in selection of best student is highly competitive. Hence it makes the selection a bit challenging. Therefore, the purpose of this research is to apply Fuzzy AHP in selection of best student in overall aspect which is academic and non-academic. Next, compare the system of selection process of best student awards between Fuzzy AHP method and traditional method. Using a structured questionnaire, the primary data was collected from 10 experts to be evaluated. The research findings indicated that three criteria taken into account which are Academic, Position and Level of Participation. The findings also indicated the appraisal of sub criteria taken for each criteria which are GPA, Bonus from head of department, President, Vice President, Committee members, Participant, International, University, UiTM Kelantan and Faculty. This research called Fuzzy AHP method proposed by Buckley where Triangular Fuzzy Number (TFNs) and linguistic variables are used to achieve better accuracy and consistency in the decision makers' judgment. Furthermore, three alternative candidates based on sub criteria is presented. Hence, the result with highest normalized weight is the most suitable candidate to be selected for the best student. This method could be very useful to university establishment and to any other organization that may be interested in fair and efficient recruitment exercise.

1 INTRODUCTION

Nowadays, students are very excellent in their studies. They often get great score for every examination. Even though there are many students with great result, it will not ensure or guarantee that the students can be classified as the best student. Thus, every institution of higher education will have selection of best student to give award and recognition for their great achievement in studies. It is also to encourage and enhance competitiveness among other students.

However, the selection is always challenging and controversial one. Since the process selection has been done manually, the result might be biased. Therefore, some students believe that the process is still less than satisfactory. Sometimes, the result of selection being questioned by other candidates about what makes the winner elected as best student. The curiosity level among students is quite high on how the higher education running the selection.

A research on selection of job has been done by Kılıç & Çevikcan (2011). They highlight that, a standout among the most critical choices to be made in life is about employment choice and picking the correct employment is extremely essential now.

Furthermore, in previous research by Ayhan (2013) on selection of best supplier stated that, selection of supplier is one of the vital function of a purchasing department and the system of finding the right supplier with the good quality at the preferred price, time and quantities.

A selection of top students in E-learning system has been done by Asad et al. (2015), they stated that e-learning is discovering more favor with scholarly people. Hence, the process of determine the performance level of individual students are by evaluation of student learning achievement.

Since the problem generate fuzziness within the decision making process, this research attempt to apply Fuzzy Analytic Hierarchy Process (F-AHP) by collecting data from the experts. It is also to formulate an efficient ways to know the answer. The fuzzy AHP method can be seen as a progress scientific technique created from the customary AHP (Mahendran et al.,