UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

A COMPARATIVE STUDY OF TODIM AND TOPSIS APPROACH TO MULTI CRITERIA DECISION MAKING (MCDM)

P27M19

FARAH NUR HAMIZAH BINTI ZAINON (2016635634)

FATIN AMIRA BINTI ABDUL HALIM (2015100129)

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

JULY 2019

ACKNOWLEDGEMENTS

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

Firstly, we are grateful to Allah S.W.T for giving us the strength to complete this project successfully. We would like to express our gratitude to UiTM Seremban Campus for giving us an opportunity to complete such an interesting final year project in a given time.

We are very thankful to our respected Supervisor of Final Year Project (MSP660), Sir Zahari Bin Md Rodzi for the confidence he had on us regarding this project. He such a helpful, patience and kept showing us his continuous support to us from the beginning until we complete this report. Without his guidance, we might face a lot of problems. We cannot deny that this project has helped us gained a lot of knowledge and gained a memorable experience as well. It was a pleasure to take Sir Zahari as our supervisor for this final year project.

Next, we also want to express our deepest thanks to Dr. Mat Salim Selamat for guiding us on MSP660 lectures. We got a lot of information and able to identify the problems that students usually make during complete this final year project report from his lectures. We are appreciating for the endless support and giving the right advice that help us until the end of this project.

Last but not least, we would like to express our heartfelt gratitude to our friends and family members, especially our parents for the encouragement and financial assistance as well as their spiritual support in every path that we take. May Allah pay all their kindness.

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ABSTRACT

This research is focusing on the application of an acronym in Portuguese for Interactive and Multi-Criteria Decision Making (TODIM) and a Technique for Order Preference by Similarity to Ideal Solution (TOPSIS) methods to solve the multi criteria decision making. The problem with this study is there is a lot of method in fuzzy sets that can be used to solve the multi criteria decision making (MCDM) and it is quite hard for the decision maker to choose the best selection and ranking the different alternatives. The objectives of this research are to apply TODIM and TOPSIS method in MCDM and to study the alternatives ranking between TODIM and TOPSIS method. First process of methodology is applied the TODIM method to solve the selection in the best offer from set of proposal by Roszkowska (2011) and a comparative study of classical TOPSIS and new TOPSIS method by Garcia-Cascales & Lamata (2012). Next, process of application TOPSIS method in the selection in the elective courses by Aytac, Tus, & Kundakci (2016) and in the selection in the residential properties by Uysal & Omur (2014). From this study, the result shows the most important alternative based on the preferred criteria after applying TODIM and TOPSIS methods.