UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

TRANSPORTATION COST OPTIMIZATION BY USING LINEAR PROGRAMMING

P14S19

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

DECEMBER 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 deepest appreciation to all those who provided us the possibility to complete this project. A special gratitude we give to UiTM Seremban for accepting our research and special thanks to our final year project supervisor Dr. Maznah Banu Binti Md Habiboo Raman whose contribution in stimulates suggestions and encouragement, have helped us to coordinate our project especially in writing this report. Her immense knowledge, profound experience and professional expertise in Linear Programming have enabled us to complete this project successfully. We are thankful for her precious time in guiding us, answering our questions, correcting and improving our report.

In addition, we would also like to express our sincere thanks to Mrs. Aminah Binti Abdul Malek as our lecturer in charge of our final year project for these two semesters. Without her help we unable to complete our project in the time given. Most importantly, we owe our gratitude to our parents and to all our friends for giving us their moral support and some advices. Without their support, this project may not be finished. Last but not least, we are thankful for this team that has given all the support to complete this project successfully.

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ABSTRACT

Transportation cost is very crucial for business that runs transportation services. Proper planning for transporting goods will enhance the outcome of the company. In order to get the optimization for cost of transportation, the company has to consider the cost of transportation occurred. Good planning will result better outcome. In this study, a real-world application of a transportation problem involves transporting goods from warehouse to distributor in Johor, Malaysia has been considered. This study seeks to address the problem to determine the optimal transportation cost for effective planning to guarantee a smooth running of the transporting goods of a business. Therefore, linear programming method is used to ascertain the best route, to maximize the capacity per transportation and to minimize the transportation cost of distributing good from warehouse to distributor. The data that consists of demand and supply requirement are acquired from several branches of one company in Johor. It was interpreted as tableau. As the result, the objective to minimize the transportation cost had been achieved by linear programming method compared to the manual calculation. It is proven that linear programming is one of the methods that can be used to solve optimization problem by saving the cost about 35%. Nevertheless, demand and supply are not the only constraints for calculating transportation cost, however, other factors need to be considered due to uncertainty.