

UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

**COST EFFICIENCY OF CHOCOLATE PRODUCTION
USING GOAL PROGRAMMING APPROACH**

P7S19

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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 accomplish this project successfully. We would like to express our gratitude to all people that have been contribute together to help us finish this project and made it as a valuable experienced for us. Firstly, we would like to thank our supervisor, Madam Busyra binti Latif, for her excellent and motivated support in helping us to complete this project also always giving us many ideas that can improving the quality of our project. Besides that, we would to thankful to all lectures and our friends which has involved directly or indirectly along the way to finish this project. Finally, our gratitude goes to our family members, especially mother and father, which is always supporting us and giving so much inspirations to finish this final year project. We hope that this project will help us to improve our knowledge and practice in programming world.

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ABSTRACT

Production planning is related to the planning of the type and quantity of products to be produced by the company. Development of an optimal production plan that will promote business success and maximize profit generation vital. In this study, the problem of this company is having a difficulty on finding the best product and week which are having the lowest product cost and the highest profit. The aim of the production planning is to achieve production stability against varieties of constraint such as demand, production time, production cost and others. Grandeur Chocolate @AOM Food Industries only use Microsoft Excel for their data collection and production planning. The disadvantage in using this method are the users might easily to make an error and difficulty in testing or troubleshooting. Grandeur Chocolate @AOM Food Industries stated that, the data were mainly substituted and inputted by human. Therefore, the probability of making errors are high. In addition to that, Microsoft Excel only capable of formulating and calculating the input data without able to determine the accuracy of the input data. This automatically making troubleshooting and testing of the false obtain data to be difficult. Thus, this study is looking for the better alternative ways in evaluating this project to find the best planning to optimize the chocolate production using Goal Programming (GP) approach. The data were executed by LINGO and the result showed that the objective functions are fully achieved. This project is evaluated based on the Net Production Cost (NPC). The data that have been collected from an interview were used in this project. All the data collection and the implementation of the data into the model will give a result which are for objective 1 (Model 1), this company can achieved it on the first week and the other week are underutilize of other expenses. For objective 2 (Model 2), the objectives of sales for week 1 and week 2 are under target while for week 3 and week 4 are over target. As overall, all the products are accepted in optimizing the chocolate production. From this study, there are some recommendation that could be done to help the decision maker to make a good decision. The other recommendation of using GP model for the production planning is it can be applied to the other problems such as financial planning, marketing and quality control and capital budgeting. It can also be regards as a guideline for others to further the field of study in production by using GP method.