UNIVERSITI TEKNOLOGI MARA

TECHNICAL REPORT

COST EFFICIENCY OF CHOCOLATE PRODUCTION USING GOAL PROGRAMMING APPROACH

P7S19

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

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

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.