

UNIVERSITI TEKNOLOGI MARA

**OPTIMIZATION OF TRANSPORTATION PROBLEM USING
LINEAR PROGRAMMING TECHNIQUE**

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STUDENT'S DECLARATION

I certify that this report and the research to which it refers are the product of my own work and that any ideas or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Optimization is using available resources in the best possible way. Whether the objective is to maximize profit or minimize cost, optimization of a problem can lead to better planning for an organization. Mathematical tools such as Linear Programming allow such optimization problem to be modeled mathematically to solve it. In this paper, linear programming was used to solve the optimization for transportation problem that involves transporting rice from Padiberas Nasional Berhad (PNB) rice mills to wholesalers and customers in Malaysia. PNB currently deliver rice from five rice mill to 22 different locations in the eight state of Malaysia. Since not all destinations involved in the transportation process, the right amount of rice that should be transport to each destination is important for the company to utilize available resource in the best way. This paper aimed to minimize total transportation cost that was incurred by the company. It also discussed the sensitivity analysis impact of changes in cost incurred at each rice mill to its destination toward the total transportation cost. POM-QM for Windows was used to solve the model for minimization of total transportation cost. The result show that total transportation cost was able to be minimized from RM 3,010,895 to RM 2,187,310.30.

TABLE OF CONTENTS

CONTENTS	PAGE
SUPERVISOR'S APPROVAL	
STUDENT'S DECLARATION	
ACKNOWLEDGEMENTS	iv
ABSTRACT	v
TABLE OF CONTENTS	vi
LIST OF FIGURES	viii
LIST OF TABLES	ix
LIST OF ABBREVIATIONS	x
CHAPTER ONE: INTRODUCTION	
1.1 Background of the Study	1
1.2 Problem Statement	2
1.3 Objective of the Study	3
1.4 Scope of the Study	3
1.5 Significance of the Study	3
CHAPTER TWO: LITERATURE REVIEW	
2.1 The History of Transportation Problem	5
2.2 History of Linear Programming	6
2.3 Application of Linear Programming	7
2.4 Summary	9
CHAPTER THREE: RESEARCH METHODOLOGY	
3.1 Introduction	10
3.2 Method of Data Collection	10
3.3 Linear Programming Model formulation	10
3.4 Data Analysis Technique	16
CHAPTER FOUR: RESULTS AND DISCUSSIONS	

4.1	Introduction	17
4.2	Summarization of Result Obtained	17
4.3	Verification for Minimization of Transportation Cost	19
4.4	Sensitivity analysis	21
CHAPTER FIVE: CONCLUSION AND RECOMMENDATION		
5.1	Conclusion	23
5.2	Recommendation	24
REFERENCES		25
APPENDICES		
APPENDIX A: RAW DATA TABLE		28
APPENDIX B: POM-QM FOR WINDOWS INPUT		29
APPENDIX C: LINEAR PROGRAMMING RESULT (POM-QM FOR WINDOWS)		30
APPENDIX D: ORIGINAL PROBLEM WITH ANSWER (POM-QM FOR WINDOWS)		31