



TABLE OF CONTENTS

COVER LETTER	i
APPROVAL SHEET	iii
FREE PLAGIARISM STATEMENT	iv
AKNOWLEDGMENT	v
TABLE OF CONTENTS	vii
LIST OF FIGURES	ix
LIST OF TABLES	x
CHAPTER 1 INTRODUCTION	1
1.1 Background	1
1.2 Problem Formulation	6
1.3 Objective	6
1.4 Problem Limitations	6
1.5 Organization	7
CHAPTER 2 LITERATURE REVIEW	5
2.1 MILP Models	5
2.2 Multi-Objective Optimization in Perishable Supply Chains	5
2.3 Transportation Mode Selection in Supply Chains	6
2.4 Supplier Selection	7
2.5 Research gap	8
CHAPTER 3 THEORETICAL BACKGROUND	12
3.1 Supply Chain	12
3.2 Sustainable Food Supply Chain	14
3.3 Perishable Product Supply Chain	16
3.4 Carbon Footprint	17
CHAPTER 4 RESEARCH METHODOLOGY	20
4.1 Research Framework	20
4.2 Research Tools	22
4.3 Problem Description	22



4.4	Assumptions.....	24
4.5	Mathematical Formulation.....	25
4.6	Phase-1	33
4.7	Phase-2.....	34
CHAPTER 5 RESULTS AND DISCUSSION.....		38
5.1	Data Collection	38
5.2	Individual Optimization Results	42
5.3	Facility Location	48
5.4	Weighted Goal Programming Result.....	49
5.5	Pareto frontier	50
5.6	Sensitivity Analysis	54
a.	Transportation Cost Changes.....	55
b.	Demand Changes	57
5.7	Managerial Insights.....	59
CHAPTER 6 CONCLUSION AND RECOMMENDATION.....		62
7.1	Conclusion	62
7.2	Recommendation for Future Research.....	63
REFERENCES		64
APPENDIX.....		70