Contents

801

List of Figures		vii
List of	Tables	ix
Introduction		1
1	Network Models	13
	Types of Network Representations	13
	Characteristics of Network Models	16
	Types of Networks	19
	Decision-CPM Model	20
	Generalized Network Model	29
	Decision Box Network	30
	Graphical Evaluation and Review Technique (GERT)	33
	Venture Evaluation and Review Technique (VERT)	42
	Generalized Alternative Activity Network Model (GAAN)	44
2	Multi-Objective Decision-Making Models	49
	Linear Programming Formulation of the Time-Cost Trade-off	
	Problem	49
	A Linear Time-Cost Trade-off Model to Find the Critical Path	54
	Fuzzy Linear Programming	56
	Goal Programming	63
	An Integer Programming Problem	67
3	Multi-Criteria Decision-Making Models	73
5	Multi-Attribute Utility Theory	73
	The VIKOR Method	83
	The TOPSIS Method	85
	Fuzzy PROMETHEE Method	90
		70
4	Game Theory	101
	Game Theory	102
	The Shapley Value	105

The Core 1 A Cost-Allocation Method Based on the Core 1 Float Allocation Using Game Theory 1 5 Dynamic Programming 1 Dynamic Programming 1	106 108 110 114 21 221 223
A Cost-Allocation Method Based on the Core 1 Float Allocation Using Game Theory 1 5 Dynamic Programming 1 Dynamic Programming 1	110 114 121 121 123
Float Allocation Using Game Theory15Dynamic Programming1Dynamic Programming1	14 21 23
5 Dynamic Programming 1 Dynamic Programming 1	21 21 23
Dynamic Programming 1	21
	23
A Multi-Project Investment Problem 1	
	26
Dynamic Programming Formulation of the Time-Cost	.26
6 Forecasting Models 1	33
Forecasting 1	.33
Linear Regression 1	.34
Grey Methodology 1	40
	.41
0	.50
Decision Box Network	
	57
	58
0	.62
1 ,	.62
	.69
Linear Programming Formulation of the Time-Cost Trade-off	=-
	73
	75
	.83
Goal Prégramming	
1	.87
	.90
Multi-Criteria Decision-Making Models	
	99
	17

vi