Contents

Part I Engineer-to-order Projects

1	The Project Management Process		
	1.1	Project Management: A Process-Based Approach	3
	1.2	Operations Management and Project Management	7
	1.3	Types of Projects	10
	1.4	Managing Innovation	10
2	Mai	nagement of Contract Work	15
	2.1	Legal Aspects and Contract Administration	15
	2.2	Types of Contract Work	16
	2.3	The Life Cycle of Contract Work Orders	19
	2.4	The Organization of ETO Companies	22
	2.5	From Engineering to Manufacturing	24
3	Product Design		
	3.1	Delivering a New Product	29
	3.2	The Stages of NPD	30
	3.3	Managing NPD	33
	3.4	Platform Management	36
4	Service Design		
	4.1	The Quality of Service	41
	4.2	Designing Service Content	43
	4.3	Designing Service Delivery	44
	4.4	Process-Based Service Improvement	46

xiii



Pai	t II	Managing Project Variables	
5	Man	aging a Project	51
	5.1	Breakdown Structures	51
	5.2		57
	5.3	, -	58
	5.4	Managing a Project Portfolio	62
6	Proj	ect Strategy Management	65
	6.1	Strategic Planning	65
	6.2	Project Management Strategies	67
	6.3	Project Management Performances	71
7	Proj	ect Quality Management	77
	7.1	Designing with the Customers	77
	7.2		81
	7.3	Design for Manufacturability	84
	7.4	Reducing Variety	86
	7.5	Simultaneous Engineering	92
	7.6	Reverse Engineering	93
8	Project Time Management		
	8.1	Time Representation: Gantt Chart and Network Diagram	97
	8.2	Network Techniques: CPM, MPM, PERT, GERT, VERT	101
	8.3	CPM: Activity Scheduling and Float Analysis	103
9	Proj	ect Organization and Resource Management	109
	9.1	Company-Wide Project Management	109
	9.2		110
	9.3	The Role of the Project Manager	115
	9.4	Definition of Responsibilities and Conflict Management	118
10	Proj	ect Cost Management	121
	10.1	Types of Project Costs	121
	10.2	Cost Estimating and Project Budget Calculation	122
	10.3		
		Cost Accounts	125
	10.4		129
	10.5	Capital Budgeting: Analysis and Evaluation	
		of an Investment Project	132
	10.6	Project Financing	135

Contents xv

Part III	International	Contracting
----------	---------------	-------------

11	Project Initialization F. Cozzi		141
	11.1 11.2	The Commercial Phase	141 153
	11.2	Analysis of Commercial Offer	156
	11.3		160
	11.5	Technical Specification Analysis	164
12	Project Execution Phase F. Cozzi		
	12.1	Project Manager Role	177
	12.2	Project Monitoring	181
	12.3	Onshore Phase	187
	12.4	Contract Closing	195
13	Project Risk ManagementF. Cozzi		199
	13.1	Risk Process	199
	13.2	Risk Evaluation	202
	13.3	Risk Monitoring	206
14	Snaps	shots of PM: Pictures From PM World	211
Rei	ference	s	225