

1	Introduction	1
 Part I Foundation		
2	Business Process	7
2.1	Business	7
2.2	Functional Areas	10
2.3	Business Process	15
	References	24
3	Business Process Modeling	25
3.1	Process Modeling	25
3.1.1	Activity Parameters	26
3.2	Process Modeling Techniques	28
3.2.1	Data Flow Diagram	28
3.2.2	Unified Modeling Language	32
3.2.3	Business Process Management Notations	36
	References	43
4	Business Process Approaches	45
4.1	Business Process Reengineering	46
4.2	Business Process Improvement	49
4.3	Business Process Management	53
4.3.1	Business Process Lifecycle	54
4.3.2	Business Process Management Benefits	58
	References	60
5	Process Analysis	61
5.1	Process Performance	61
5.1.1	Cycle Time	63
5.1.2	Flow Rate	64
5.1.3	Inventory	64
5.1.4	Little's Law	65

5.2	Process Cycle Time	67
5.2.1	Theoretical Cycle Time	67
5.2.2	Critical Path	68
5.2.3	Cycle Time Computing	71
5.2.4	Rework	72
5.2.5	Multiple Paths	74
5.2.6	Parallel Paths	74
5.2.7	Cycle-Time Efficiency	75
5.3	Process Capacity	77
5.3.1	Resources	77
5.3.2	Theoretical Capacity	79
5.3.3	Capacity Utilization	82
	References	83
6	Knowledge Management	85
6.1	What is Knowledge Management	85
6.2	Knowledge Management Models	88
6.3	Knowledge Management Cycle	91
6.3.1	Knowledge Capture and/or Creation	92
6.3.2	Knowledge Sharing and Dissemination	94
6.3.3	Knowledge Acquisition and Application	96
	References	97
7	Simulation	99
7.1	Introduction to Queues	99
7.1.1	Queuing Process	100
7.2	Understanding Simulation	102
7.3	Systems Simulation	105
7.3.1	Systems Characteristics	105
7.3.2	Discrete Event Simulation	107
7.4	Simulation Procedure	109
	References	112
8	Data Modeling	113
8.1	Data Dependences	114
8.1.1	Functional Dependence	114
8.1.2	Full Functional Dependence	115
8.1.3	Transitive Dependence	116
8.1.4	Multivalued Dependence	116
8.2	Normalization	117
8.2.1	First Normal Form	118
8.2.2	Second Normal Form	119
8.2.3	Third Normal Form	120
8.2.4	Fourth Normal Form	121
	References	122

Part II TAD Methodology

9	Phase 1: Process Identification	125
9.1	Process List Creation	126
9.2	Process Flow Identification	128
	References	130
10	Phase 2: Process Modeling	131
10.1	Activity Table Development – Part 1	132
10.1.1	Defining Business Process	133
10.1.2	Defining Work Processes	133
10.1.3	Defining Activities	134
10.2	Activity Table Development – Part 2	139
10.2.1	Activity Description	140
	References	142
11	Phase 3: Process Improvement and Innovation	143
11.1	“as-is” Process Model Analysis	145
11.1.1	Process Simulation	146
11.1.2	Process Flow	148
11.1.3	Cycle Time Efficiency	150
11.1.4	Process Capacity	151
11.2	“to-be” Model Creation	153
11.2.1	Ideas Identification	154
11.2.2	Ideas Implementation	157
11.3	“to-be” Process Model Analysis	159
11.3.1	Simulation	160
11.3.2	Process Flow	162
11.3.3	Cycle Time Efficiency	162
11.3.4	Process Capacity	162
	References	163
12	Phase 4: System Development	165
12.1	Class Model	166
12.1.1	Fundamental Object-Oriented Concepts	166
12.1.2	Modeling Approach	169
12.2	System Design	175
12.2.1	Develop System Design	176
12.3	System Implementation	179
12.3.1	Programming	179
12.3.2	Testing	181
12.3.3	Deployment	181
	References	182

13	Phase 5: Maintenance	183
13.1	System Maintenance	184
13.2	Process Maintenance	184
	Reference	185
14	Case Study 2	187
14.1	Phase 1: Process Identification	187
14.1.1	Process List Creation	187
14.1.2	Process Flow Identification	188
14.2	Phase 2: Process Modeling	188
14.2.1	Activity Table Development: Part 1	188
14.2.2	Activity Table Development: Part 2	190
14.3	Phase 3: Process Improvement and Innovation	190
14.3.1	“as-is” Process Model Analysis	190
14.3.2	“to-be” Process Model Creation	193
14.3.3	“to-be” Process Model Analysis	195
14.4	Phase 4: Systems Development	198
14.4.1	Class Model	198
14.4.2	System Design	202
	Appendix	205
	Index	211