## Contents

Preface xv

1 INTRODUCTION TO INNOVATION PROJECT MANAGEMENT 1

Introduction 1
Definitions for Innovation 2
The Business Need 4
Innovation Literature 7
Project Management Literature 8
Innovation Benchmarking 9
Value: The Missing Link 10
Innovation Targeting 12
Timeline for Innovation Targeting 13
Innovation in Small Companies 14
Seven Critical Dimensions for Scaling Project Management Innovation 14
Implications and Issues for Project Managers and Innovation Personnel 17

2 TYPES OF INNOVATION 19

Introduction 19
Incremental versus Radical Innovation 20
Understanding Innovation Differences 21
Product Development Innovation Categories 21
Closed and Open Innovation 23
Crowdsourcing 26
Co-Creation Innovation 27
Open Innovation in Action: Airbus and Co-creation Partnerships 33
Value (or Value-Driven) Innovation 35
Agile Innovation 36
4 INNOVATION TOOLS AND PROCESSES 115

Introduction 115
New Product Development 116
The Fuzzy Front End 117
Line of Sight 119
Risk Management 119
The Innovation Culture 123
Innovative Cultures and Corporate Leadership 126
Idea Generation 127
Spinoff Innovations 128
Understanding Reward Systems 129
Innovation Leadership in Action: Medtronic 130
IPM Skills Needed 133
Design Thinking 135
Brainstorming 138
Prototypes 141
Creativity and Innovation Fears 143
Innovation Governance 144
Transformational Governance 145
Balanced Scorecard 146
Strategy Maps 147
Innovation Portfolio Management 148
Innovation Sponsorship 151
The Innovation Team 151
Virtual versus Co-located Innovation Teams 152
The Need for PM 2.0 and PM 3.0 153
Implications and Issues for Project Managers and Innovation Personnel 156

5 FROM TRADITIONAL TO INNOVATION PROJECT MANAGEMENT THINKING 159

Introduction 159
Information Warehouses 160
Innovation Planning Overview 163
Innovation Assumptions 167
Validating the Objectives 169
Life-Cycle Phases 171
Work Breakdown Structure 175
Budgeting 175
Scheduling 176
Scope Change Control 176
Communication 178
Communication Innovation in Action: Arcadis 179
6  INNOVATION MANAGEMENT SOFTWARE  219

Introduction  219
Origin and Benefits of Innovation Software  220
Software Innovation in Action: Ideascale  222
Software Innovation in Action: Qmarkets  225
Software Innovation in Action: Hype Innovation  230
Software and Open Innovation  241
Implications and Issues for Project Managers and Innovation Personnel  241

7  VALUE-BASED INNOVATION PROJECT MANAGEMENT METRICS  243

Introduction  243
Value over the Years  245
Value and Leadership  246
Combining Benefits and Value  248
Recognizing the Need for Value Metrics  249
The Need for Effective Measurement Techniques  252
Customer/Stakeholder Impact on Value Metrics  257
Customer Value Management Programs  258
The Relationship between Project Management and Value  261
Selecting the Right Metrics  264
The Failure of Traditional Metrics and KPIs  266
The Need for Value Metrics  266
Creating Value Metrics  267
Industry Examples of Innovation Value Metrics  273
Alignment to Strategic Business Objectives  275
Metrics for Innovation Governance  277
Innovation Metrics in Action: Innovationlabs  278
The Dark Side of Innovation Metrics  288
Establishing a Metrics Management Program  290
Implications and Issues for Project Managers and Innovation Personnel  292
## 8 BUSINESS MODELS  295

- Introduction 295
- From Project Manager to Designer 297
- Business Models and Value 298
- Business Model Characteristics 299
- Strategic Partnerships 300
- Business Intelligence 300
- Skills for the Business Model Innovator 301
- Business Model Enhancements 303
- Types of Business Models 305
- Business Models and Strategic Alliances 308
- Identifying Business Model Threats 308
- Business Model Failure 310
- Business Models and Lawsuits 310
- Implications and Issues for Project Managers and Innovation Personnel 313

## 9 DISRUPTIVE INNOVATION  315

- Introduction 315
- Early Understanding of Disruption 316
- Innovation and the Business Model Disruption 317
- Categories of Disruptive Innovations 319
- The Dark Side of Disruptive Innovation 321
- Using Integrated Product/Project Teams 321
- Disruptive Innovation in Action 324
- Implications and Issues for Project Managers and Innovation Personnel 326

## 10 INNOVATION ROADBLOCKS  329

- Introduction 329
- The Failure of Success 329
- One Size Fits All 330
- Insufficient Line of Sight 330
- Failing to Search for Ideas 331
- Sense of Urgency 331
- Working with Prima Donnas 332
- Lack of Collaboration 332
- Politics 332
- Project Workloads 332
- Intellectual Property Rights 333
- Not Understanding the Relationship between Creativity and Innovation 334
- Too Many Assumptions 334
### Contents

**Innovation Funding** 335
**Cash Flow and Financial Uncertainty** 335
**Control, Control, and Control** 335
**Analysis-Paralysis** 336
**Innovation in Action: Naviair** 336
**Innovation in Action: Overcoming the Roadblocks** 349

**11 DEFINING INNOVATION SUCCESS AND FAILURE** 353

**Introduction** 353
**The Business Side of Traditional Project Success** 354
**Defining Project Success: The Early Years** 355
**Redefining Project Success: Approaching the Twenty-First Century** 357
**Degrees of Success and Failure** 358
**Defining Success at the Beginning of the Project** 359
**The Role of Marketing in Defining Innovation Success** 360
**The Business Side of Innovation Success** 363
**Prioritization of the Success Factors** 365
**Innovation Project Success and Core Competencies** 366
**Innovation Project Success and Business Models** 368
**Causes of Innovation Project Failure** 368
**Identifying the Success and Failure Criteria** 371
**Implications and Issues for Project Managers and Innovation Personnel** 373

**12 INNOVATION IN ACTION** 375

**Introduction** 375
**Innovation in Action: Apple** 375
**Innovation in Action: Facebook** 377
**Innovation in Action: IBM** 378
**Innovation in Action: Texas Instruments** 382
**Innovation in Action: 3M** 384
**Innovation in Action: Motorola** 385
**Innovation in Action: Zurich North America** 386
**Innovation in Action: UNICEF USA** 388
**Innovation in Action: Samsung** 392
**Agile Innovation in Action: Integrated Computer Solutions, Inc.** 392
**Innovation in Action: COMAU** 400
**Innovation in Action: Tokio Marine and Nichido Systems** 408
**Innovation in Action: GEA** 410
**Innovation in Action: Airbus Space and Defence** 418
**Innovation in Action: thyssenkrupp** 421
**Innovation in Action: Wärtsilä Energy Solutions** 424
**Working Together: ABC Training Software Development Project Revival** 427
**Critical Issues** 430
13 CASE STUDIES  431
Disney (A): Innovation Project Management Skills at Disney  431
Disney (B): Creating Innovation: Disney’s Haunted Mansion  441
Disney (C): Impact of Culture on Global Innovation Opportunities  456
Disney (D): The Partnership Side of Global Business Model Innovation  476
Case Study: Boeing 787 Dreamliner: Managing Innovation Risks with a New Business Model  489
Case Study: The Sydney Australia Opera House  496
Case Study: Ampore Faucet Company: Managing Different Views on Innovation  503
Case Study: The Innovation Sponsors  506
Case Study: The Rise, Fall, and Resurrection of Iridium: When an Innovation Business Model Fails  508

INDEX  539