CONTENTS

PREFACE xv
ABOUT THE AUTHOR xxi

<table>
<thead>
<tr>
<th>CHAPTER 1</th>
<th>The Nature of Information Technology Projects 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Global Technology Solutions 1</td>
</tr>
<tr>
<td></td>
<td>Introduction 2</td>
</tr>
<tr>
<td></td>
<td>How This Book Is Organized 3</td>
</tr>
<tr>
<td></td>
<td>The Software Crisis 4</td>
</tr>
<tr>
<td></td>
<td>Why IT Projects Fail 4</td>
</tr>
<tr>
<td></td>
<td>Improving the Likelihood of Success 6</td>
</tr>
<tr>
<td></td>
<td>A Socio-Technical Approach 6</td>
</tr>
<tr>
<td></td>
<td>A Project-Management Approach 7</td>
</tr>
<tr>
<td></td>
<td>A Knowledge-Management Approach 8 The</td>
</tr>
<tr>
<td></td>
<td>Context of Project Management 9</td>
</tr>
<tr>
<td></td>
<td>What Is a Project? 9</td>
</tr>
<tr>
<td></td>
<td>Attributes of a Project 9 The Project Life</td>
</tr>
<tr>
<td></td>
<td>Cycle and IT Development 12</td>
</tr>
<tr>
<td></td>
<td>Define Project Goal 12</td>
</tr>
<tr>
<td></td>
<td>Plan Project 13</td>
</tr>
<tr>
<td></td>
<td>Execute Project Plan 13</td>
</tr>
<tr>
<td></td>
<td>Close Project 14</td>
</tr>
<tr>
<td></td>
<td>Evaluate Project 14</td>
</tr>
<tr>
<td></td>
<td>The IT Product Life Cycle 14</td>
</tr>
<tr>
<td></td>
<td>Planning 15</td>
</tr>
<tr>
<td></td>
<td>Analysis 15</td>
</tr>
<tr>
<td></td>
<td>Design 15</td>
</tr>
<tr>
<td></td>
<td>Implementation 15</td>
</tr>
<tr>
<td></td>
<td>Maintenance and Support 15</td>
</tr>
<tr>
<td></td>
<td>Putting the SDLC into Practice 16</td>
</tr>
</tbody>
</table>
CHAPTER 2    Conceptualizing and Initializing the IT Project    23

Global Technology Solutions    23

Introduction    25

An Information Technology Project Methodology (ITPM)    25

Phase 1: Conceptualize and Initialize    27
Phase 2: Develop the Project Charter and Detailed Project Plan    28
Phase 3: Execute and Control the Project    29
Phase 4: Close Project    29
Phase 5: Evaluate Project Success    30

IT Project Management Foundation    30

Project Management Processes    31

Project Objectives    31

Tools    31

Infrastructure    31

Project Management Knowledge Areas    32

Business Case    32

What Is a Business Case?    32

Developing the Business Case    33

Step 1: Select the Core Team    33

Step 2. Define Measurable Organizational Value (MOV)    34

Step 3: Identify Alternatives    40

Step 4: Define Feasibility and Assess Risk    41

Step 5: Define Total Cost of Ownership    42

Step 6: Define Total Benefits of Ownership    42

Step 7: Analyze Alternatives    43

Step 8: Propose and Support the Recommendation    47

Project Selection and Approval    48

The IT Project Selection Process    49

The Project Selection Decision    49
CHAPTER 3 Developing the Project Charter and Baseline Project Plan 55

Global Technology Solutions 55

Introduction 56

Project Management Processes 57
  Project Management Process Groups 58
    Initiating 58
    Planning 59
    Executing 60
    Controlling 60
    Closing 60

Project Integration Management 60
  Project Plan Development 61
  Project Plan Execution 62

Overall Change Control 62

The Project Charter 63
  What Should Be in a Project Charter? 65
    Project Identification 65
    Project Stakeholders 65
    Project Description 65
    Measurable Organizational Value (MOV) 65
    Project Scope 65
    Project Schedule 66
    Project Budget 66
    Quality Issues 66
    Resources 66
    Assumptions and Risks 66
    Project Administration 67
    Acceptance and Approval 67
  References 67

Terminology 67

Project Planning Framework 68
  The MOV 69
  Define the Project's Scope 69
  Subdivide the Project into Phases 70
  Tasks—Sequence, Resources, and Time Estimates 70
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Scope Initiation</strong></td>
<td>104</td>
</tr>
<tr>
<td>Project Scope Planning</td>
<td>105</td>
</tr>
<tr>
<td>Scope Boundary</td>
<td>105</td>
</tr>
<tr>
<td>The Scope Statement</td>
<td>105</td>
</tr>
<tr>
<td><em>Scope Statement</em></td>
<td>105</td>
</tr>
<tr>
<td>Out of Scope for this Project</td>
<td>106</td>
</tr>
<tr>
<td><strong>Project Scope Definition</strong></td>
<td>107</td>
</tr>
<tr>
<td>Project-Oriented Scope</td>
<td>107</td>
</tr>
<tr>
<td><em>Project-Oriented Scope Definition Tools</em></td>
<td>107</td>
</tr>
<tr>
<td>Product-Oriented Scope</td>
<td>109</td>
</tr>
<tr>
<td><em>Product-Oriented Scope Definition Tools</em></td>
<td>109</td>
</tr>
<tr>
<td><strong>Project Scope Verification</strong></td>
<td>111</td>
</tr>
<tr>
<td>Scope Change Control</td>
<td>113</td>
</tr>
<tr>
<td>Scope Change Control Procedures</td>
<td>114</td>
</tr>
<tr>
<td>Benefits of Scope Control</td>
<td>117</td>
</tr>
<tr>
<td><strong>Chapter Summary</strong></td>
<td>117</td>
</tr>
<tr>
<td><strong>Review Questions</strong></td>
<td>117</td>
</tr>
<tr>
<td><strong>Extend Your Knowledge</strong></td>
<td>119</td>
</tr>
<tr>
<td><strong>Bibliography</strong></td>
<td>119</td>
</tr>
</tbody>
</table>

## CHAPTER 6 The Work Breakdown Structure and Project Estimation 120

### Global Technology Solutions 120

### Introduction 122

### The Work Breakdown Structure (WBS) 123

- Work Packages 123
- Deliverables and Milestones 124
- Developing the WBS 125

- *The WBS Should Be Deliverable-Oriented* 126
- *The WBS Should Support the Project’s MOV* 126
- *The Level of Detail Should Support Planning and Control* 127
- *Developing the WBS Should Involve the People Who Will Be Doing the Work* 128

- *Learning Cycles and Lessons Learned Can Support the Development of a WBS* 128

### Project Estimation 128

- Guesstimating 128
- Delphi Technique 129
- Time Boxing 129
- Top-Down Estimating 129
- Bottom-Up Estimating 130
CHAPTER 7  The Project Schedule and Budget  146

Global Technology Solutions  146
Introduction  148
Developing the Project Schedule  149
  Gantt Charts  150
  Project Network Diagrams  150
  Activity on the Node (AON)  151
  Critical Path Analysis  152
  PERT  153
  Precedence Diagramming Method (PDM)  154
Project Management Software Tools  156
Developing the Project Budget  158
  Cost Estimation  159
  Other Costs  161
  Resource Allocation  163
Finalizing the Project Schedule and Budget  163
Chapter Summary  164 Review Questions  165 Extend Tour Knowledge  165 Bibliography  165

CHAPTER 8  Managing Project Risk  166

Global Technology Solutions
Introduction  168
IT Project Risk Management Planning Process  170
  Risk Planning  171
CHAPTER 9 | Project Communication, Tracking, and Reporting 197

Global Technology Solutions 197
Introduction 199
Monitoring and Controlling the Project 200
The Project Communications Plan 202
Project Metrics 203 Earned Value 205
Reporting Performance and Progress 209
Information Distribution 210 Chapter Summary
213 Review Questions 215
CHAPTER 10  IT Project Quality Management  217

Global Technology Solutions  217

Introduction  220

The Quality Movement  223
  Craftsmanship  223
  The Industrial Revolution  224
  Frederic W. Taylor (1856-1915)  224
  Walter A. Shewhart (1891-1967)  225
  W. Edwards Deming (1900-1993)  227
  Joseph Juran (1904- )  228
  Kaoru Ishikawa (1915- )  229
  Phillip Crosby (1926-2001)  231

Quality Systems  231
  International Organization for Standardization (ISO)  231
  TickIT  234
  Six Sigma (6cr)  234
  The Capability Maturity Model (CMM)  236
    Level 1: Initial  237
    Level 2: Repeatable  238
    Level 3: Defined  239
    Level 4: Managed  239
    Level 5: Optimizing  240

The IT Project Quality Plan  241
  Quality Philosophies and Principles  241
    Focus on Customer Satisfaction  242
    Prevention not Inspection  242
    Improve the Process to Improve the Product  243
    Quality Is Everyone’s Responsibility  243
    Fact-Eased Management  243
  Quality Standards and Metrics  243
  Verification and Validation  245
  Change Control and Configuration Management  247
    Component Identification  248
    Version Control  248
    Configuration Building  248
    Change Control  249
CHAPTER 11  Managing Organizational Change, Resistance, and Conflict  256

Global Technology Solutions  256
Introduction  258
The Nature of Change  260
The Impact of Change  260 Change as a Process  262 Emotional Responses to Change  263 The Change Management Plan  264
Assess Willingness, Readiness, and Ability to Change  264
Sponsor  264
Change Agents  265
Targets  265
Develop or Adopt a Strategy for Change  266
Rational-Empirical Approach  267
Normative-Reeducation Approach  267
Power-Coercive Approach  268
Environmental-Adaptive Approach  269
Implement the Change Management Plan and Track Progress  270
Evaluate Experience and Develop Lessons Learned  270
Dealing with Resistance and Conflict  270
Resistance  270
Conflict  271
Polarity Management  274
Chapter Summary  277 Review Questions  278 Extend Tour Knowledge  279 Bibliography  280

CHAPTER 12  Project Implementation, Closure, and Evaluation  281

Global Technology Solutions  281
Introduction 282
Project Implementation 283
Direct Cutover 284 Parallel
285 Phased 285
Administrative Closure 287
    Project Sponsor Acceptance 289
    The Final Project Report 290
    The Final Meeting and Presentation 291
    Closing the Project 291
Project Evaluation 292
    Individual Performance Review 292
    Postmortem Review 293
    Project Audit 294
Evaluating Project Success—The MOV 295
Chapter Summary 296
Review Questions 297
Extend Tour Knowledge 297 298

APPENDIX A: An Introduction to Function Point Analysis 301

INDEX 315