

# Contents

## Part I A Reality Check

<b>1</b>	<b>Introduction</b>	3
1.1	Introduction	4
1.2	How Project Management Evolved	4
1.2.1	PMBok® as a Guidance Versus PMBoK® as a Standard	4
1.2.2	Navigating Through the Layers	5
1.3	How Are These Methods Different?	6
1.3.1	The Micro-Drill Effect	6
1.3.2	Characterizing the Change	6
1.4	Types of Project Environments	7
1.4.1	What Is the Business Issue?	8
1.4.2	Limitations of Existing Attempts	8
1.4.3	Refining the Business Issue	9
1.4.4	An Alternative Framework	9
1.5	Types of Projects	13
1.5.1	Cardinal Questions	13
1.5.2	Conventional Thinking on Types	14
1.5.3	Why Is Classification Not Useable?	16
1.5.4	An Alternate View	17
1.6	The Distinction Between the Two Approaches	19
1.6.1	Advantages of Stereotyping	20
1.6.2	Disadvantages of Stereotyping	20
1.7	Key Takeaways	21
<b>2</b>	<b>Basic Misconceptions in Projects</b>	23
2.1	Hello World!	23
2.1.1	Drawing the Line Between Projects and Operations	24
2.1.2	Similarities Between Projects and Operations	25

- 2.2 Projects in Business . . . . . 27
- 2.3 Project Approvals are Complex Financial Decisions . . . . . 29
  - 2.3.1 Cost–Benefit Analysis . . . . . 30
  - 2.3.2 Appraise the Investment . . . . . 31
  - 2.3.3 Recap of Basic Financial Management Concepts . . . 33
- 2.4 A More Balanced Perspective of Project Evaluation . . . . . 38
- 2.5 Key Takeaways . . . . . 40
- 3 A Quick Honest Beginning! . . . . . 41**
  - 3.1 All’s Well! . . . . . 41
  - 3.2 Caselet 1 . . . . . 42
  - 3.3 Caselet 2 . . . . . 42
  - 3.4 Caselet 3 . . . . . 42
  - 3.5 Caselet 4 . . . . . 42
  - 3.6 Real Life Cases: As Narrated by a Project Manager-1 . . . . . 43
  - 3.7 Real Life Cases: As Narrated by a Project Manager-2 . . . . . 44
  - 3.8 Real Life Cases: As Narrated by a Project Manager-3 . . . . . 44
    - 3.8.1 Case 1 . . . . . 44
    - 3.8.2 Case 2 . . . . . 44

**Part II Reviewing Projects: First Level**

- 4 The Systems View of Management-I . . . . . 47**
  - 4.1 Introduction . . . . . 47
  - 4.2 An Example Framework . . . . . 49
  - 4.3 The Project Management Context . . . . . 51
  - 4.4 Project Phase . . . . . 51
  - 4.5 Project Life Cycle . . . . . 51
  - 4.6 Types of Project Life Cycles . . . . . 53
    - 4.6.1 SDLC: The Linear Model . . . . . 54
    - 4.6.2 The Incremental Model . . . . . 57
    - 4.6.3 A Quick Simulation . . . . . 58
    - 4.6.4 Rapid Application Development . . . . . 61
  - 4.7 A Generic Treatment . . . . . 62
  - 4.8 A Popular Issue . . . . . 69
  - 4.9 Key Takeaways . . . . . 70
- 5 The Systems View of Management-II . . . . . 71**
  - 5.1 The Project Organization . . . . . 71
    - 5.1.1 The Structural Frame . . . . . 71
    - 5.1.2 The Human Resource Frame . . . . . 72
    - 5.1.3 The Political Frame . . . . . 72
    - 5.1.4 The Symbolic Frame . . . . . 73
  - 5.2 Project Organization: Types of Structural Frames . . . . . 73
  - 5.3 Functional Organization . . . . . 73
  - 5.4 Projectized Organizations . . . . . 74

- 5.5 Matrix Organizations . . . . . 75
- 5.6 Demystifying the Structural Frame . . . . . 76
- 5.7 The Biological Entrepreneurial Model. . . . . 78
  - 5.7.1 Understanding the Biological Component . . . . . 79
  - 5.7.2 A Quick View of the Model . . . . . 80
- 5.8 Key Takeaways . . . . . 81
- 6 Basic Mantras of Project Management . . . . . 83**
  - 6.1 A Serious Note to Begin with!. . . . . 83
  - 6.2 Wits of Experience! . . . . . 84
  - 6.3 Formal Project Management . . . . . 85
  - 6.4 Project Stakeholders . . . . . 86
  - 6.5 The First Mantra . . . . . 87
  - 6.6 Project Scope Management . . . . . 88
  - 6.7 The Second Mantra . . . . . 90
  - 6.8 Project Plan and Schedule Management . . . . . 90
    - 6.8.1 Two Problems to Avoid . . . . . 92
  - 6.9 The Third Mantra. . . . . 93
  - 6.10 Project Costing . . . . . 93
    - 6.10.1 The Pseudo Management Problem . . . . . 94
  - 6.11 The Fourth Mantra. . . . . 96
  - 6.12 Project Quality. . . . . 96
    - 6.12.1 Quality: An Ignored Concept . . . . . 97
  - 6.13 The Fifth Mantra . . . . . 98
  - 6.14 Project Communication Management . . . . . 98
    - 6.14.1 Pitfalls of Improper Communication Management . . . . . 99
  - 6.15 The Sixth Mantra. . . . . 99
  - 6.16 Key Takeaways . . . . . 100

**Part III Management and Business Review**

- 7 Second Level Review-I. . . . . 103**
  - 7.1 Reengineering the Processes . . . . . 104
  - 7.2 Project Management Tools . . . . . 104
    - 7.2.1 So, What Is a Tool? . . . . . 105
    - 7.2.2 Some Popular Tools . . . . . 105
  - 7.3 Mantras for Project Management Tools. . . . . 106
  - 7.4 Understanding the Management Context . . . . . 107
  - 7.5 A Sample Case . . . . . 107
    - 7.5.1 A Look at Potential Maneuvers . . . . . 108
    - 7.5.2 More Information to Decide Better! . . . . . 111
  - 7.6 Factoring Additional Information in the Sample Case . . . . . 116
    - 7.6.1 Devising a Good Framework for the Decision . . . . . 118
    - 7.6.2 The Modeling Approach . . . . . 119
    - 7.6.3 A Few Points to Ponder . . . . . 122

- 7.7 Understanding Critical Paths . . . . . 124
- 7.8 Three Point Estimation . . . . . 126
- 7.9 Key Takeaways . . . . . 128
- 8 Second Level Review-II . . . . . 129**
  - 8.1 Reporting . . . . . 129
    - 8.1.1 A Sample Case Demonstration . . . . . 130
    - 8.1.2 Important Aspects of Reporting . . . . . 133
    - 8.1.3 The Most Common Mistake in Reporting . . . . . 135
    - 8.1.4 Defining Metrics. . . . . 135
  - 8.2 Earned Value Analysis . . . . . 137
    - 8.2.1 A Sample Case. . . . . 138
    - 8.2.2 Problems with EVA . . . . . 140
  - 8.3 Key Takeaways . . . . . 144
- 9 Second Level Review-III. . . . . 145**
  - 9.1 The Many Forms of Truth. . . . . 145
    - 9.1.1 Introduction . . . . . 146
    - 9.1.2 Approaches to Understanding the Truth. . . . . 146
    - 9.1.3 Parameter 1: Culture . . . . . 147
    - 9.1.4 Parameter 2: The Dilemma of Choices . . . . . 147
    - 9.1.5 Parameter 3: The Corporate Direction . . . . . 148
    - 9.1.6 Integrating the Parameters . . . . . 149
    - 9.1.7 The Way Ahead. . . . . 150
  - 9.2 The Race Between Cost and Time . . . . . 150
    - 9.2.1 A Sample Case. . . . . 151
  - 9.3 Important Concepts on Integration . . . . . 153
    - 9.3.1 The Strategic Time-Window . . . . . 153
    - 9.3.2 The Opportunity Cost . . . . . 155
  - 9.4 Key Takeaways . . . . . 157

**Part IV Active Project Risk Management**

- 10 Basics Mantras of Risk Management . . . . . 161**
  - 10.1 A Taste of Practice! . . . . . 162
    - 10.1.1 The First Mantra of Risk Management . . . . . 163
  - 10.2 Some Basic Checks to Start. . . . . 163
  - 10.3 Prioritizing Risks . . . . . 164
    - 10.3.1 The First Fundamental Analysis . . . . . 165
    - 10.3.2 The Second Mantra of Risk Management . . . . . 166
  - 10.4 Controlling Risks . . . . . 167
    - 10.4.1 The Third Mantra of Risk Management. . . . . 168
  - 10.5 Classifying Risks . . . . . 168
    - 10.5.1 The Fourth Mantra of Risk Management . . . . . 168
  - 10.6 Re-visiting Rankings. . . . . 170
    - 10.6.1 The Fifth Mantra of Risk Management . . . . . 171

- 10.7 Risk Hierarchy . . . . . 171
  - 10.7.1 The Sixth Mantra of Risk Management . . . . . 172
- 10.8 Key Takeaways . . . . . 172
- 11 How Risky Is Your Risk Management?** . . . . . 173
  - 11.1 Introduction . . . . . 173
  - 11.2 What Is Risk? . . . . . 173
  - 11.3 Phases in Risk Management . . . . . 175
  - 11.4 Risk I: The Numerical Perspective . . . . . 175
  - 11.5 Risk II: The Extremes Perspective . . . . . 175
  - 11.6 Risk III: The Measurement Perspective . . . . . 176
  - 11.7 Risk IV: Method of Capture . . . . . 176
  - 11.8 Risk V: Periodicity . . . . . 177
  - 11.9 Risk VI: Control System . . . . . 177
  - 11.10 Risk VII: Quality of Information . . . . . 178
  - 11.11 Risk VIII: Spread of Analysis . . . . . 179
  - 11.12 Risk IX: The Transition . . . . . 179
  - 11.13 Key Takeaways . . . . . 179
- 12 Project Management in R&D** . . . . . 181
  - 12.1 Introduction . . . . . 181
  - 12.2 Misconceptions in R&D . . . . . 181
  - 12.3 Challenges and Market Responses . . . . . 182
  - 12.4 Key Takeaways . . . . . 183
- 13 Tools in Risk Management** . . . . . 185
  - 13.1 A Brief History . . . . . 186
  - 13.2 Critical Issues . . . . . 186
  - 13.3 The Decision Tree . . . . . 187
    - 13.3.1 The Conventions . . . . . 187
    - 13.3.2 More Information . . . . . 188
  - 13.4 The Utility Function . . . . . 189
    - 13.4.1 An Application . . . . . 189
  - 13.5 Incorporating the Procrastinator Manager! . . . . . 190
    - 13.5.1 Two Quick Mantras . . . . . 191
  - 13.6 Some Strategies for Decision Trees . . . . . 191
    - 13.6.1 Risk-Averse Organizations . . . . . 191
    - 13.6.2 Ready-to-Jump! . . . . . 192
    - 13.6.3 A Better Balance... . . . . 192
  - 13.7 Game Theory . . . . . 193
  - 13.8 Basic Game Theory . . . . . 193
  - 13.9 The Schedule Chicken . . . . . 194
    - 13.9.1 Another Variation of Game Theory . . . . . 196
    - 13.9.2 A Crazy Situation! . . . . . 197
  - 13.10 Key Takeaways . . . . . 197

- 14 Risk Parameters . . . . . 199**
  - 14.1 Introduction . . . . . 199
  - 14.2 Revisiting the Perspectives Involved . . . . . 200
    - 14.2.1 A Sample Case. . . . . 201
  - 14.3 Scenario Planning in Risks . . . . . 203
    - 14.3.1 A Quick Recap on Fundamentals of Scenarios . . . . . 204
    - 14.3.2 Two Phenomena to Be Wary of . . . . . 206
  - 14.4 The Last-Mile Phenomenon. . . . . 208
  - 14.5 Control Risk Through Meetings . . . . . 211
  - 14.6 Revisiting Utility Functions . . . . . 213
    - 14.6.1 Threshold Methods . . . . . 213
    - 14.6.2 Combining Parameters. . . . . 216
  - 14.7 Micro-planning . . . . . 217
    - 14.7.1 A Formal Definition . . . . . 218
    - 14.7.2 Criteria to Adopt Micro-planning . . . . . 218
  - 14.8 Key Takeaways . . . . . 219

**Part V Project Planning and Scheduling**

- 15 Basics of Scheduling. . . . . 223**
  - 15.1 Reviewing Basics . . . . . 224
  - 15.2 Derive the Schedule . . . . . 226
  - 15.3 Slacks or Floats . . . . . 229
  - 15.4 Resources and Calendars. . . . . 230
  - 15.5 Resource Leveling . . . . . 231
    - 15.5.1 Strategies for Leveling . . . . . 232
  - 15.6 Despite All Said... . . . . 233
  - 15.7 A Quick Understanding of Relationships . . . . . 235
  - 15.8 Updating Schedules . . . . . 238
  - 15.9 Basic Schedule Analysis . . . . . 239
    - 15.9.1 Robustness. . . . . 239
    - 15.9.2 Variances in the Plan . . . . . 241
    - 15.9.3 Activity Assignments . . . . . 242
    - 15.9.4 Clear Activity Definition . . . . . 243
  - 15.10 Key Takeaways . . . . . 244
- 16 Advanced Planning and Schedule Analysis . . . . . 245**
  - 16.1 WBS and Its Link with the Project Plan . . . . . 245
    - 16.1.1 3D Project WBS. . . . . 247
    - 16.1.2 So, Where Is the Problem? . . . . . 248
  - 16.2 WBS Maturity Model . . . . . 249
  - 16.3 Multitasking in Projects. . . . . 252
  - 16.4 Establishing Successful Baselines. . . . . 256
    - 16.4.1 Some Myths About Baselines. . . . . 256
    - 16.4.2 Define the Baseline. . . . . 257
    - 16.4.3 Dimensions to Ensure a Successful Baseline . . . . . 258
  - 16.5 Key Takeaways . . . . . 263

- 17 More Advanced Planning . . . . . 265**
  - 17.1 Change in WBS and Baselines of a Project . . . . . 266
  - 17.2 Integration in Planning . . . . . 270
  - 17.3 Light Version of 4D Models . . . . . 272
  - 17.4 Complexity of Perspectives . . . . . 276
  - 17.5 Integrating Schedules with Logistics . . . . . 281
  - 17.6 Integrating Schedules as Schedules! . . . . . 285
    - 17.6.1 Retained Logic and Schedule Override . . . . . 287
    - 17.6.2 Selective Update of Contractor Schedules . . . . . 289
  - 17.7 Activity Versus Milestone-based Scheduling . . . . . 290
    - 17.7.1 A Few Situations to Consider. . . . . 291
    - 17.7.2 Milestone-Based Management . . . . . 293
    - 17.7.3 Milestone Structure. . . . . 294
    - 17.7.4 Monitoring. . . . . 295
    - 17.7.5 Contract Types. . . . . 295
    - 17.7.6 A Closing Remark on Activity Detailing . . . . . 296
  - 17.8 Critical Chain Project Management. . . . . 296
    - 17.8.1 A Behavioral Genesis . . . . . 297
    - 17.8.2 Demystifying the Critical Chain . . . . . 297
  - 17.9 Key Takeaways . . . . . 299

**Part VI Project Procurement Management**

- 18 Procurement: Commercial Risks Dimension . . . . . 303**
  - 18.1 Pricing for Risks . . . . . 304
  - 18.2 Bidding Dimensions and Risk Management. . . . . 305
  - 18.3 Getting to Contract. . . . . 306
    - 18.3.1 Basic Contract Types: Cost Perspective . . . . . 307
    - 18.3.2 Contract Types: Supplier Perspective. . . . . 309
    - 18.3.3 Contract Types: Business Case Perspective . . . . . 310
    - 18.3.4 Innovations in Contracts . . . . . 313
  - 18.4 Key Takeaways . . . . . 314
- 19 Account Management. . . . . 317**
  - 19.1 Key Drivers. . . . . 318
  - 19.2 Communication Philosophy . . . . . 319
  - 19.3 Partnering or Engaging Principles. . . . . 324
  - 19.4 Posturing. . . . . 328
  - 19.5 More Dimensions. . . . . 329
    - 19.5.1 Content of Information . . . . . 330
    - 19.5.2 Network . . . . . 330
  - 19.6 A Case Study: Communication Leverage. . . . . 331
  - 19.7 Key Takeaways . . . . . 340

**20 Public–Private Partnerships in Projects.** . . . . . 341

20.1 Introducing PPP. . . . . 342

20.2 A Better Understanding of PPP . . . . . 344

20.2.1 Common Analogy . . . . . 344

20.2.2 Another One . . . . . 345

20.2.3 A More Complex One. . . . . 345

20.3 A Simplistic View . . . . . 346

20.4 Why Is PPP So Important? . . . . . 347

20.5 Key Dimensions and Challenges . . . . . 348

20.5.1 Environmental Readiness Phase . . . . . 349

20.5.2 Initiation Phase. . . . . 353

20.5.3 The Realization Phase . . . . . 354

20.5.4 Post-implementation Phase. . . . . 356

20.6 Key Takeaways . . . . . 357

**21 Key Mantras in PPP Projects.** . . . . . 359

21.1 The Experience Dimension . . . . . 359

21.1.1 The First Mantra. . . . . 361

21.2 Incentivizing a PPP Project . . . . . 361

21.2.1 A Case in Point . . . . . 361

21.2.2 The Second Mantra. . . . . 363

21.3 Unorthodox Views on Independent Contracting!. . . . . 364

21.3.1 The Third Mantra. . . . . 365

21.4 Ensuring Integration . . . . . 366

21.4.1 Contrasting Philosophies . . . . . 366

21.4.2 The Fourth Mantra . . . . . 367

21.5 Curbing Corruption . . . . . 368

21.5.1 The Fifth Mantra . . . . . 368

21.6 Key Takeaways . . . . . 369

**Part VII Other Project Areas**

**22 People Dimensions.** . . . . . 373

22.1 The 1-2-3 of HR . . . . . 374

22.1.1 The Cardinal Question. . . . . 375

22.1.2 Factor 1: The Individual Productivity  
or Performance. . . . . 375

22.1.3 Factor 2: The Group Productivity  
or Performance. . . . . 376

22.1.4 Factor 3: CTC as a Function of Performance . . . . . 376

22.1.5 Factor 4: Attrition Rates . . . . . 377

22.1.6 Factor 5: Cost of Replacing . . . . . 377

22.1.7 Factor 6: Time to Replace and the Time  
to Restore . . . . . 377

22.1.8 Factor 7: Cost of Under-Performing . . . . . 378



- 22.1.9 The Integration Model. . . . . 378
- 22.1.10 Conclusion. . . . . 378
- 22.2 HR in Projects: Attrition Management! . . . . . 379
  - 22.2.1 The HR Dilemma Revisited! . . . . . 380
  - 22.2.2 The Quick Business Test! . . . . . 381
  - 22.2.3 Need for Innovation . . . . . 382
  - 22.2.4 Environments Requiring Such Models. . . . . 387
  - 22.2.5 Preparing the Model . . . . . 388
- 22.3 Key Takeaways . . . . . 390
  
- References . . . . . 393**
  
- Index . . . . . 395**



<http://www.springer.com/978-981-10-0781-1>

A Forward Looking Approach to Project Management  
Tools, Trends, and the Impact of Disruptive  
Technologies

Gurjar, N.

2017, XXX, 401 p. 133 illus., 15 illus. in color.,

Hardcover

ISBN: 978-981-10-0781-1