RUSS J. MARTINELLI DRAGAN Z. MILOSEVIC

### Project Management ToolBox

### SECOND EDITION

Froject Manager

WILEY

## PROTECT MANAGEMENT TOOLBOX

Second Edition

Russ J. Martinelli Dragan Z. Milosevic



Cover image: Wiley
Cover design: abstract background © yewkeo/iStockphoto

This book is printed on acid-free paper.

Copyright © 2016 by Russ J. Martinelli and Dragan Z. Milosevic

Published by John Wiley & Sons, Inc., Hoboken, New Jersey Published simultaneously in Canada

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise, except as permitted under Section 107 or 108 of the 1976 United States Copyright Act, without either the prior written permission of the Publisher, or authorization through payment of the appropriate per-copy fee to the Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923, (978) 750-8400, fax (978) 646-8600, or on the web at www.copyright.com. Requests to the Publisher for permission should be addressed to the Permissions Department, John Wiley & Sons, Inc., 111 River Street, Hoboken, NJ 07030, (201) 748-6011, fax (201) 748-6008, or online at www.wiley.com/qo/permissions.

Limit of Liability/Disclaimer of Warranty: While the publisher and author have used their best efforts in preparing this book, they make no representations or warranties with the respect to the accuracy or completeness of the contents of this book and specifically disclaim any implied warranties of merchantability or fitness for a particular purpose. No warranty may be created or extended by sales representatives or written sales materials. The advice and strategies contained herein may not be suitable for your situation. You should consult with a professional where appropriate. Neither the publisher nor the author shall be liable for damages arising here from.

For general information about our other products and services, please contact our Customer Care Department within the United States at (800) 762-2974, outside the United States at (317) 572-3993 or fax (317) 572-4002.

Wiley publishes in a variety of print and electronic formats and by print-on-demand. Some material included with standard print versions of this book may not be included in e-books or in print-on-demand. If this book refers to media such as a CD or DVD that is not included in the version you purchased, you may download this material at http://booksupport.wiley.com. For more information about Wiley products, visit www.wiley.com.

Library of Congress Cataloging-in-Publication Data:

ISBN 978-1-118-97312-7 (hard back), 978-1-118-97321-9 (ePDF), 978-1-118-97320-2 (ePUB) and 978-1-119-17482-0 (oBook)

### **PREFACE**

uch has changed since the publication of the first edition of this book, as the field of project management (PM) is continually evolving. Part of that evolution has involved a new approach for selecting project management tools from an ad-hoc "choose as you use" approach to a more systematic approach of creating a PM Toolbox that can be applied to many project situations. From this perspective, we feel fortunate to have been part of the recent project management evolution.

We also feel fortunate to have had the opportunity to work firsthand with many project managers and project office directors as they set about the task of creating their initial PM Toolboxes based on the teachings of this text. Our personal understanding of how project management is evolving and how it affects the needs for PM tools has been greatly enhanced. This new understanding became the basis for the changes introduced in this second edition.

The most significant changes in this edition are in four areas. First, we have focused the content of the book on the fundamental project management practice areas to create more depth in content. Next, we have maintained the traditional view of project management tools but have also provided a contemporary set of tools that reflect the changes in PM practices. Then, to strengthen an area that has created some of the most positive reader feedback, we have enhanced the various tips, tricks, and examples found throughout the book. Finally, we worked to create a stronger message concerning the importance of creating a PM Toolbox that enables stronger alignment between business strategy and project execution, between strategic goals and project deliverables, and between the work of senior leaders and project managers.

This book has established itself as both educational lecture material and an industry practice reference, which we hope to maintain with this second edition. Our heartfelt thanks to the existing and future readers of this book; we hope you find it both enjoyable and useful to read.

Of course, we would like to hear from you directly and get your feedback at www.programmanagement-academy.com. Supplemental materials and templates can be found on our web site as well.

### **ACKNOWLEDGMENTS**

would like to thank the many people who have helped in making this book a reality.

To our contributing authors, whose subject matter expertise is appreciated:

V To our contributing authors, whose subject matter expertise is appreciated: Debra Lavell, Jim Waddell, Tim Rahschulte, Peerasit Patanakul, James Henrey, and Jeffrey Leach.

To the team at John Wiley & Sons, who continue to provide outstanding support and guidance. In particular, we want to thank our executive editor, Margaret Cummins, and our assistant editor, Amanda Shettleton. Your continued partnership and collaboration is greatly valued.

To our many colleagues and coworkers who have contributed to the concepts presented in this work in many ways.

To our families who provide the support and encouragement necessary to complete the writing process.

We are truly blessed to be associated with such a wonderful and supportive community of people!

### CONTENTS

Preface Acknow	rledgments	xv xvii
	RT I: THE PM TOOLBOX	1
E	NTRODUCTION TO THE PM TOOLBOX  Inabling Business and Project Strategy 5  Project Management Methodologies and Processes 7	3
С	Sonstructing and Adapting a PM Toolbox 9 Secure Strategic Alignment 10 Customize the PM Toolbox 12 Continuously Improve the PM Toolbox 20	
	eferences 21  T II: PROJECT INITIATION TOOLS	23
<b>2</b> P	PROJECT SELECTION	25
Ti	he Benefits Map 25  Enabling Benefits Management 26  Developing a Benefits Map 28  Using a Benefits Map 29  Variations 30  Benefits 31	
E	conomic Methods 31 Payback Time 31	

### Scoring Models 34

Developing a Scoring Model 34 Using a Scoring Model 39 Benefits 40

### Voting Models 40

Developing a Voting Model 41 Using the Voting Model 42 Benefits 45

### Pairwise Ranking 46

Developing a Pairwise Ranking Tool 47 Using the Pairwise Ranking Matrix 48 Benefits 49

### The Alignment Matrix 49

Developing the Alignment Matrix 50 Variations 51 Benefits 52

References 52

### 3 PROJECT INITIATION

Developing Checklist Questions for Project Initiation 56 Using the Checklist Questions 57

55

### The Goals Grid 57

Developing a Goals Grid 58 Using the Goals Grid 59 Benefits 60

Checklist Questions for Project Initiation 55

### Responsibility Matrix 60

Developing a Responsibility Matrix 61 Using the Responsibility Matrix 63 Benefits 64

### Complexity Assessment 64

Developing the Complexity Assessment 65 Using the Complexity Assessment 67 Benefits 67

	Developing the Project Business Case 68 Using the Project Business Case 70	
	Benefits 71	
	The Project Charter 71	
	Developing a Project Charter 71	
	Using a Project Charter 76	
	Variations 77	
	Benefits 77	
	References 78	
1	RT III: PROJECT PLANNING TOOLS	81
1	PROJECT REQUIREMENTS	83
	The Elicitation Plan 84	
	Developing an Elicitation Plan 86	
	Using the Elicitation Plan 89	
	Benefits 90	
	Requirements Specification 91	
	Specifying a Requirement Using Planguage 91	
	Using the Requirements Specificiation 93	
	Benefits 96	
	The Product Requirements Document 96	
	Developing a Product Requirements	
	Document 97	
	Using the PRD 101	
	Benefits 102	
	Requirements Ambiguity Checklist 102	
	Using the Requirements Ambiguity	
	Checklist 104	
	Benefits 106	
	Requirements Baseline 106	
	Establishing a Requirements Baseline 107	
	Establish a Requirements Change Board 107	
	Benefits 108	
	References 109	

### Project SWOT Analysis 111

Performing a Project SWOT Analysis 112 Using a Project SWOT Analysis 116 Benefits 117

### The Scope Statement 118

Developing a Scope Statement 118
Using a Scope Statement 124
Variations 124
Benefits 125

### The Work Breakdown Structure 126

Constructing a Project WBS: A Top-Down Approach 128 Establish the WBS Level of Detail 130 Constructing a Project WBS: A Bottom-Up Approach 134 Using the WBS 135 Benefits 136

### The Product Breakdown Structure 137

Constructing a Product Breakdown Structure 137 Using the PBS 141 Benefits 141

References 142

### **6** SCHEDULE DEVELOPMENT

145

### The Gantt Chart 146

Developing a Gantt Chart 146 Using the Gantt Chart 149 Benefits 149

### The Milestone Chart 150

Developing a Milestone Chart 151 Using the Milestone Chart 153 Benefits 154

### The Critical Path Method Diagram 154

Constructing a CPM Diagram 155
Using the CPM Diagram 160
Benefits 161
Variations 161

### The Time-Scaled Arrow Diagram 162

Developing a TAD 162 Using a TAD 167 Benefits 168

### The Critical Chain Schedule 168

Developing a Critical Chain Schedule 169 Using the Critical Chain Schedule 172 Benefits 173

### The Hierarchical Schedule 173

Constructing a Hierarchical Schedule 174 Using a Hierarchical Schedule 176 Benefits 177

### Line of Balance 177

Developing a Line-of-Balance Schedule 178 Using the LOB 180 Benefits 181

### Choosing Your Scheduling Tools 181

References 183

### 7 COST PLANNING

185

### The Cost-Planning Map 185

Developing a Cost-Planning Map 186 Using the Cost-Planning Map 191 Benefits 191

### Analogous Estimate 191

Developing an Analogous Estimate 192 Using an Analogous Estimate 193 Benefits 193

Parametric Estimate 194	
Developing Parametric Estimates 194	
Using Parametric Estimates 198	
Benefits 198	
Bottom-up Estimate 199  Developing Bottom-Up Estimates 200  Using Bottom-Up Estimates 202  Benefits 202	
The Cost Baseline 203  Developing a Cost Baseline 203  Using the Cost Baseline 207  Benefits 208	
Choosing a Cost-Planning Tool 211	
References 211	
RT IV: PROJECT IMPLEMENTATION	TOOLS 213
SCOPE MANAGEMENT	215
Project Scope Control System 217  Establishing a Project Scope Control  System 217  Using the Project Scope Control System 22  Benefits 223	20
Project Change Request 223  Developing a Project Change Request 224  Using the Project Change Request 228	

### The Scope Control Decision Checklist 233 Developing a Scope Control Decision

Benefits 229

Benefits 233

The Project Change Log 229

Checklist 233

Developing a Project Change Log 230 Using the Project Change Log 232

### Using the Scope Control Decision Checklist 234 Benefits 235

References 235

### 9 SCHEDULE MANAGEMENT

237

### The Burn Down Chart 239

Developing the Burn Down Chart 239 Using the Burn Down Chart 240 Benefits 242

### The Slip Chart 243

Developing the Slip Chart 244 Using the Slip Chart 246 Benefits 246

### The Buffer Chart 247

Developing the Buffer Chart 248 Using the Buffer Chart 249 Benefits 250

### The Jogging Line 251

Constructing a Jogging Line 252 Using the Jogging Line 255 Variations 256 Benefits 256

### The Milestone Prediction Chart 257

Constructing the Milestone Prediction
Chart 258
Using the Milestone Prediction Chart 260
Benefits 260

### B-C-F Analysis 261

Performing the B-C-F Analysis 262 Using the B-C-F Analysis 264 Benefits 265

### Schedule Crashing 265

Performing Schedule Crashing 265 Using Schedule Crashing 269 Benefits 269

	Choosing Your Schedule Management Tools 269 References 270	
10	COST MANAGEMENT	273
	Cost Management Plan 275  Developing the Cost Management Plan 275  Using the Cost Management Plan 276	
	The Budget Consumption Chart 276  Developing the Budget Consumption Chart 277  Using the Budget Consumption Chart 278  Variations 279  Benefits 279	
	Earned Value Analysis 280  Performing Earned Value Analysis 281  Using Earned Value Analysis 292  Variations 293  Benefits 293	
	Milestone Analysis 294  Performing a Milestone Analysis 295  Using the Milestone Analysis 297  Benefits 297	
	Choosing Your Cost Management Tools 297	
	References 298	
11	AGILE PROJECT EXECUTION  Contributed by Peerasit Patanakul	301
	James Henry Jeffrey A. Leach	
	Scrum Basics 302	

### Product Backlog and Sprint Backlog 304

Information on the Backlogs 304 Populating Backlogs 304 Benefits 306

	Release Planning 307	
	The Release-Planning Event 308	
	Initial Draft Release Plan 309 Final Release Plans 309	
	HIP Sprint 310	
	Release Planning versus Sprint Planning 310	
	Benefits 311	
	The Daily Scrum Meeting 311	
	Organizing a Daily Scrum Meeting 312	
	Benefits 312	
	Sprint Task Board 313	
	Using the Sprint Task Board 313	
	Benefits 314	
	The Sprint Burn Down Chart 315	
	Developing a Sprint Burn Down Chart 315	
	Using a Sprint Burn Down Chart 316	
	Benefits 317	
	The Sprint Retrospective Meeting 317	
	Organizing a Sprint Retrospective	
	Meeting 318 Using a Sprint Retrospective Meeting 318	
	Benefits 320	
	Canaluding Damarka, 220	
	Concluding Remarks 320	
	References 321	
۸	RT V: PROJECT REPORTING AND	
	KIV: PROJECT REPORTING AND CLOSURE TOOLS	323
	CLOSORE TOOLS	323
n	DEDECORAL VALGE DEDOCATIVAG	205
<b>Z</b>	PERFORMANCE REPORTING	325
	Project Reporting Checklist 325	
	Developing the Project Reporting	
	Checklist 326 Using the Project Reporting Checklist 326	
	oshing the Hojeet neporting effective 320	

Benefits 326

# The Project Strike Zone 328 Developing the Project Strike Zone 328 Using the Project Strike Zone 330 Benefits 332 The Project Dashboard 332 Designing a Project Dashboard 334 Using the Project Dashboard 335 Benefits 336 The Summary Status Report 337 Developing a Summary Status Report 3

Developing a Summary Status Report 337
Using the Summary Status Report 342
Benefits 343

### The Project Indicator 343

Developing the Project Indicator 345
Using the Project Indicator 346
Variations 346
Benefits 348

### Choosing Your Reporting Tools 349

References 349

### **13** PROJECT CLOSURE

Contributed by Tim Rahschulte, PhD

### Understanding Project Closure 351

Project Closing Activities 353

### Project Closure Plan and Checklist 356

Developing the Plan and Checklist 358 Using the Closure Plan and Checklist 362 Benefits 362 351

### The Project Closure Report 363

Developing the Project Closure Report 363
Using the Project Closure Report 365
Benefits 365

### Postmortem Review 366

Conducting the Postmortem Review 366 Using the Postmortem Review 369 Variations 371 Benefits 372

Concluding Remarks 373

References 373

### PART VI:

### RISK AND STAKEHOLDER MANAGEMENT

**TOOLS** 

375

### **14** MANAGING PROJECT RISK

377

### Risk Management Plan 378

Developing a Risk Management Plan 378 Using the Risk Management Plan 385 Benefits 386

### The Risk Identification Checklist 387

Developing a Risk Identification Checklist 387 Using a Risk Identification Checklist 389 Benefits 389

### The Risk Register 390

Creating a Risk Register 390 Using the Risk Register 393 Benefits 394

### The Risk Assessment Matrix 394

Developing a Risk Assessment Matrix 395
Using the Risk Assessment Matrix 397
Variations 398
Benefits 398

### Monte Carlo Analysis 399

Performing a Monte Carlo Analysis 400 Using the Monte Carlo Analysis 408 Benefits 409

### The Decision Tree 409

Analyzing the Decision Tree 410 Using Decision Trees 413 Benefits 414

### The Risk Dashboard 414

Developing the Risk Dashboard 414 Using the Risk Dashboard 418 Benefits 418

Choosing Your Risk Management Tools 420 References 420

### 15 INFLUENCING PROJECT STAKEHOLDERS

423

### The Stakeholder Management Plan 423

Developing a Stakeholder Management
Plan 424
Using the Stakeholder Management Plan 427
Benefits 427

### The Stakeholder Map 428

Developing a Stakeholder Map 428 Using the Stakeholder Map 431 Benefits 431

### The Stakeholder Analysis Table 431

Developing a Stakeholder Analysis Table 433 Using the Stakeholder Analysis Table 434 Benefits 435

### The Stakeholder Evaluation Matrix 436

Developing a Stakeholder Evaluation
Matrix 438
Using the Stakeholder Evaluation Matrix 439
Variations 441
Benefits 443

### The Stakeholder Strategy Matrix 444

Developing a Stakeholder Strategy Matrix 444 Using the Stakeholder Strategy Matrix 446 Benefits 447

Choosing Your Stakeholder Management Tools 447
References 449
Final Thoughts on The PM Toolbox 449

Index 451

此为试读,需要完整PDF请访问: www.ertongbook.com