THE JAZZ PROCESS:

COLLABORATION, INNOVATION & AGILITY

Lessons from Jazz, Sports, Software Development, Business and Military Operations

Adrian Cho

Advance Praise for *The Jazz Process*

"An insider's guide to translating the creative techniques of jazz to the business world."

—**Scott Berkun**, author of *The Myths of Innovation*

"Jazz demands cooperation, enterprise, creativity, measured risk, and so much more—and so does business. Adrian's book is an entertaining guide for importing the jazz process into the world of business."

—**Jack Chambers**, linguistics professor at the University of Toronto and jazz biographer, author of *Milestones: The Music and Times of Miles Davis*

"This book has an important message: Effective collaborations are like jazz improvisations. Jazz succeeds because the group shares just the right kind of rules and structures; business teams also need to improvise within the right kind of structure. Cho has years of experience playing jazz and working in business teams, and in this book he applies this experience to analyze the ways that effective business teams balance structure and freedom."

—**Dr. R. Keith Sawyer**, associate professor of psychology and education at Washington University and author of *Group Genius: The Creative Power of Collaboration* and many other books on creativity and innovation

"In *The Jazz Process*, Adrian Cho weaves some unusual and interesting four-part harmony between jazz, business, sport, and information technology around an important theme…teamwork."

—**Dr. Saul L. Miller**, psychologist and author of *Why Teams Win: 9 Keys to Success in Business, Sport, and Beyond* and *Performing Under Pressure: Gaining the Mental Edge in Business and Sport*

"Adrian Cho's insight into high-performance teams is drawn from his personal experiences in music, business, and software engineering. Within the Eclipse community we have seen many of these ideas in action, and they work. I highly recommend *The Jazz Process* to anyone seeking to learn how to build agile, effective teams—regardless of your field of endeavor."

—**Mike Milinkovich**, Executive Director, Eclipse Foundation

This page intentionally left blank

The Jazz Process

This page intentionally left blank

The Jazz Process

Collaboration, Innovation, and Agility

Adrian Cho

Addison-Wesley

Upper Saddle River, NJ • Boston • Indianapolis • San Francisco
New York • Toronto • Montreal • London • Munich • Paris • Madrid
Cape Town • Sydney • Tokyo • Singapore • Mexico City

Many of the designations used by manufacturers and sellers to distinguish their products are claimed as trademarks. Where those designations appear in this book, and the publisher was aware of a trademark claim, the designations have been printed with initial capital letters or in all capitals.

The author and publisher have taken care in the preparation of this book but make no expressed or implied warranty of any kind and assume no responsibility for errors or omissions. No liability is assumed for incidental or consequential damages in connection with or arising out of the use of the information or programs contained herein.

The publisher offers excellent discounts on this book when ordered in quantity for bulk purchases or special sales, which may include electronic versions and/or custom covers and content particular to your business, training goals, marketing focus, and branding interests. For more information, please contact:
U.S. Corporate and Government Sales
(800) 382-3419
corpsales@pearsontechgroup.com
For sales outside the United States, please contact:
International Sales
international@pearson.com
Visit us on the Web: informit.com/aw

Editor-in-Chief
Mark Taub
Acquisitions Editor
Greg Doench
Managing Editor
Kristy Hart
Senior Project Editor
Lori Lyons
Copy Editor
Krista Hansing Editorial Services, Inc.
Indexer
Lisa Stumpf
Proofreader
Language Logistics, LLC
Publishing Coordinator
Michelle Housley
Cover Designer
Anne Jones
Compositor
Gloria Schurick
Graphics
Laura Robbins

Library of Congress Cataloging-in-Publication Data

Cho, Adrian.
The jazz process : collaboration, innovation, and agility / Adrian Cho.
p. cm.
Includes index.
ISBN-13: 978-0-321-63645-4 (pbk. : alk. paper)
ISBN-10: 0-321-63645-7 (pbk. : alk. paper) 1. Teams in the workplace. 2. Diversity in the workplace. 3. Organizational effectiveness. 4. Communication. I. Title.
HD66.C467 2010
658.4'022—dc22
2010010507

Copyright © 2010 Adrian Cho

All rights reserved. Printed in the United States of America. This publication is protected by copyright, and permission must be obtained from the publisher prior to any prohibited reproduction, storage in a retrieval system, or transmission in any form or by any means, electronic, mechanical, photocopying, recording, or likewise. For information regarding permissions, write to:

Pearson Education, Inc.
Rights and Contracts Department
501 Boylston Street, Suite 900
Boston, MA 02116
Fax (617) 671 3447

ISBN-13: 978-0-321-63645-4
ISBN-10: 0-321-63645-7
Text printed in the United States on recycled paper at Courier in Stoughton, Massachusetts.
First printing June 2010

For Kira, Chief, and Adam,
who taught me the value of
tackling every task with gusto.

This page intentionally left blank

Table of Contents

List of Figures xv
Foreword xvi
Preface xx
Acknowledgments xxiii
About the Author xxv
Introduction 1

Part I: Working

Chapter 1 Use Just Enough Rules 21
The Need for Rules 21
Employing Just Enough Rules 23
Breaking the Rules 26
Defining a Process 28
Documenting a Process 30
Evolving and Improving a Process 32

Chapter 2 Employ Top Talent 35
The Human Element 35
Individuality 37
The Importance of Awareness 40
Enabling Organizational Agility 44
Managing Human Resources 45

Chapter 3 Put the Team First 47
Putting the Team First 47
Absorbing Mistakes as a Team 49
Avoiding Groupthink 51
Team Awareness 52

Acknowledging Everyone's Efforts 53
Avoiding Team Elitism 54

Chapter 4 **Build Trust and Respect 57**

Trust and Respect 57
Benefits of Trust and Respect 58
Developing Trust and Respect 60
Acknowledging Efforts and Results 63
When Trust and Respect Are Lost 65

Chapter 5 **Commit with Passion 69**

Commitment 69
Less Work Requires More Commitment 71
Be Willing to Make Mistakes 74
Those Who Support the Team 77
Performing with Passion 78
Performing in Social Media 80

Part II: Collaborating

Essentials of Execution 85

Feedback and the Birth of Cybernetics 86
Feedback Loops 87
Hunting Cause 1: Trying Too Hard 89
Hunting Cause 2: Reacting Too Slowly 90
Breaking Out of Positive Feedback Loops 91
John Boyd and the OODA Loop 92
The Lessons of Blitzkrieg 95
OODA and the Jazz Process 97

Chapter 6 **Listen for Change 103**

Observing 103
What We Observe 107
Identifying and Ignoring Noise 111
Data Versus Information 113

Measuring Success 115
Change Is Unavoidable 119
Consideration 1: Cognitive Biases 121
Consideration 2: Thinking Outside the Box 124
Consideration 3: Seeing Through the Fog 125
Responding to Change 127
Identifying Change 129

Chapter 7 Lead on Demand 133

Our Fascination with Leadership 133
Taking Initiative 134
Decentralizing Leadership 136
Helping the Team Navigate 140
The Importance of Following 141

Chapter 8 Act Transparently 145

Transparency in the Execution Cycle 145
Authenticity 150
Openness 154
Timeliness 157
Clarity 159
Considerations 161

Chapter 9 Make Contributions Count 165

Contributing in Collaborative Scenarios 165
Measuring Contributions: Saying More with Less . .170
Timing 178
Location and Proximity 179

Part III: Executing

Chapter 10 Reduce Friction 185

Concepts of Friction 185
Reducing Friction 188
Optimizing Friction 190

Chapter 11 Maintain Momentum 197
Concepts of Momentum 197
Form 199
Tempo 202
Pulse 205
Groove 207
Momentum in an Organization 210
Maintaining Momentum 212

Chapter 12 Stay Healthy 219
The Importance of Health 219
Causes of Injury 223
Prevention 225
Chronic Conditions 227
Recovery 228
Shock 231
Monitoring Health 231

Part IV: Innovating

Chapter 13 Exchange Ideas 237
Creativity and Innovation 237
Benefits of Innovation 239
Enabling Innovation with Collaboration 240
Enabling Innovation with Diversity 242
Enabling Innovation with Dialogue 244
Fostering Innovation 246

Chapter 14 Take Measured Risks 251
Managing Risk 251
Risks of Failing to Diversify 252
Risks of Applying Best Practices 253
Taking Risks 255
Risks of Using Just Enough Rules *255*
Risks of Employing Top Talent *256*

Risks of Putting the Team First 257
Risks of Building Trust and Respect 258
Risks of Committing with Passion 258
Risks of Listening for Change 259
Risks of Leading on Demand 261
Risks of Acting Transparently 261
Risks of Making Contributions Count 263
Risks of Reducing Friction 263
Risks of Maintaining Momentum 263
Risks of Staying Healthy 264
Risks of Exchanging Ideas 264

Coda 267

Works Cited 269

Index 281

This page intentionally left blank

List of Figures

Figure I.1: Cost of collaboration 2
Figure I.2: Benefit of synergy 3
Figure I.3: Operating framework for collaborative performance 6
Figure I.4: Innovation related to size of team for three different activities 14
Figure 1.1: Sensitivity to code changes during a software development project 25
Figure 1.2: Innovation and risk of instability during a jazz performance 25
Figure 2.1: How effective individuals rely on awareness 43
Figure P2.1: Principles of the Jazz Process 85
Figure P2.2: Jazz Process Cycle of Execution 98
Figure 6.1: Tunnel vision 104
Figure 6.2: Peripheral vision 106
Figure 6.3: Observing and orienting 107
Figure 6.4: Configuring the filter for the Event Log in Rational Team Concert 109
Figure 6.5: Configuring e-mail notifications in Rational Team Concert 110
Figure 6.6: Dashboard viewlets showing endgame shutdown 114
Figure 6.7: A team's response to change over time 128
Figure 6.8: Interaction between collaborators 130
Figure 8.1: Effects of increasing transparency 146
Figure 8.2: Transparency 147
Figure 8.3: Perception of Authenticity 148
Figure 9.1: Measuring contributions in collaborative scenarios 166
Figure 12.1: How actions lead to injury 224
Figure 12.2: Types of recovery efforts 230
Figure 13.1: Effects of diversity on the success of innovation 243

Foreword

Group dynamics are an integral part of our daily work and private lives, whether we're driving a car and dealing with commuter traffic, working through computer code with a team of programmers, running a business, or performing with a jazz group on a concert stage. In *The Jazz Process*, Adrian Cho explains how high-performance experts from varied disciplines use certain underlying truths to reach agreements, solve complicated problems, and negotiate unexpected hurdles. The best teams do this on the fly, in real time, and in such a way that an uninformed observer might never notice the skill, dedication, and magic involved.

The 14 fundamental principles found in this book are essential to any collaborative venture. Following his own advice, Cho offers "just enough" description and analysis to make practical application of the principles easy and flexible. *The Jazz Process* provides a thorough diagnosis of top performance—how teams function, how stellar results are achieved, and how people can effectively work together on just about any project imaginable.

In my work and play as a musician, I can relate every principle here to my daily practice sessions, rehearsals, and performances. Cho's ideas about teamwork, trust, roles, and responsibilities can be applied to music and arts, as well as any other activity in which a high level of performance can translate to success.

When I perform with a group of jazz musicians, we are like a basketball team, passing the ball back and forth, waiting for the right moment to sink a basket. We are a business concern, and our business is jazz. Our work is not unlike a military squad on a secret mission or a group of politicians debating social issues and reaching agreements. I bring a complex combination of skill, preparedness, and intuition to every performance situation. By understanding the goal of a musical project and being keenly attuned to the other musicians, I help the group achieve the highest possible artistic success—or the most efficient *"return on time and energy invested,"* as Cho writes.

Music performance is all about agreement and teamwork. Successful performing musicians adhere to self-evident truths ingrained by countless hours of practice and performance. The agreements between experienced musicians are often unspoken, even when they appear and sound seamless.

I play many concerts where there is a clearly defined structure to the music—there are specific notes to be played in a certain way with a certain sound, rhythmic feeling, and interpretation. However, some of my favorite musical experiences involve freely improvised situations—a minimum of rules, a bare-bones structure, with more possibility for risks and rewards. When playing freely, there are still agreements. In improvised music, the structure might not be as formal as the detailed parts of written arrangements, but the balance between freedom and responsibility remains a common denominator.

Cho describes the concept of using "just enough rules." As applied to music, this means the right rules in the right amount, with the freedom to creatively break rules if the need arises. Musicians playing various styles must understand the rules, their individual roles, and the best team approach for a good outcome.

Whether playing in a highly structured situation or in a freer atmosphere, the best musicians strive toward one goal when they pick up their instruments: musical success. At first look and listen, the goal seems simple—the players should make no mistakes, and they should elicit a satisfying reaction from the audience. The basic task of playing a piece and having the audience applaud belies the complexity of the interaction between musicians as they perform.

Great musicians, like successful business people and top athletes, constantly balance individual contributions and elegant teamwork. The gems of individual performance are almost worthless without the team framework. In a jazz band, trust and respect among the musicians are indispensable. Deep listening and a passion for the task at hand are equally important.

Legendary jazz bassist Ron Carter once spoke to me about his work with drummer Tony Williams in the Miles Davis Quintet of the '60s, saying, *"The hook-up with Tony happened right away, from the first time we played. When we started developing the music rhythmically and harmonically, I trusted my judgment. If I said this was the top of the tune, that's where they took it to be. I just trusted that it was going to go where it was going to go. I was one person they would trust to play the top of the form or show where the top of the tune was. That's something I could always do, whatever was going on. They trusted that when I played one, if that wasn't their one, they would get to it on the next time around."*

Carter repeatedly refers to the element of trust between musicians. Team trust in a jazz group begins when a player offers something musically, and it's completed when another player supports that idea. Carter's experience verifies Cho's concept of "leading on demand." The best team players know instinctively when to lead or follow.

The basic performance principles that Cho describes transfer to diverse fields. In the business world, companies thrive or die by the use or abuse of these tenets. Sports teams win or lose games. Software developers invent the next big thing—or not.

"*Companies all too often wonder why their employees are not more committed to their work, when, in fact, they should be asking themselves what they can do to achieve a higher level of commitment from their employees*," writes Cho. I've found that a bandleader, soloist, or even an ensemble player known as an ace can inspire others to give more to a performance. Cho's premise of employing top talent increases the return on investment in any situation.

The level of commitment in a musical ensemble is palpable from the moment the musicians unpack their instruments. Miles Davis famously said he could tell if someone was a good player by *"His carriage…first. His carriage of the instrument. You can tell whether he plays or not by the way he carries his instrument, whether it means something to him or not."* [from "The Man with the Horn," interview by Cheryl McCall, *Musician Magazine*, 1982].

Davis appears regularly throughout *The Jazz Process* because he was a great musician and an even greater bandleader. He was an enigmatic and abrasive character, but his bands always seemed to give 110%, providing us with some of the best recordings in the history of jazz. Davis's groups were always at the forefront of musical developments, and the friction that they created defined new directions in music.

Friction is a force to understand and manage. Cho compares friction in business, sports, war, technology, and music. Bad friction can paralyze a group, lose a game, bankrupt the company, and send an army running in retreat. Good friction in the right amount is necessary for any activity to work well. Good friction makes the jazz band swing, cranks up the heat at a basketball game, and provides just the right level of competition to maintain a thriving economy.

Form, tempo, pulse, and groove are other elements that Cho describes as essential to the success of a team. When I moved to New York City in 1980 to pursue a career as a jazz musician, I often attended Monday night workshops

with pianist Barry Harris. A master of the bebop style of jazz piano, Harris demanded a strict adherence to bebop jazz vocabulary—the melodies, rhythms, and stylistic nuances that make bebop sound unique. By mastering the vocabulary, students could successfully negotiate the structure and form of standard jazz songs.

Without strict attention to the basic underlying form, there is no freedom in the music. Tension and release in music occur when a player masters and controls the elements of form and stylistic vocabulary. To pass muster with Harris, we had to know the vocabulary, form, and have the right momentum when we played—the swing element, tempo, pulse, and rhythmic forward motion.

In a clever description of strategic approaches to warfare, basketball, business, and software development, Cho outlines the importance of form, tempo, pulse, and groove. Describing the optimal groove in a goal-oriented software development team, he shows how an organization can swing. The desire to maintain tempo and momentum that is so ingrained in a jazz musician's psyche is also the very thing that can lead a company to creatively reach goals on time. Business, bebop style.

In *The Jazz Process*, Cho lays out a clear path to achieving elegant teamwork, goal-oriented project completion, and winning results. Whatever your line of work or pleasure might be, I hope your team finds their groove.

John Goldsby
Bassist and author
www.johngoldsby.com
Cologne, Germany, March 2010

Preface

"Art is the desire of a man to express himself, to record the reactions of his personality to the world he lives in."
—Amy Lowell, nineteenth-century American poet

About This Book

This book is an artistic expression that captures some of my personal thoughts about the world in which we work and play. Although I didn't write this book with a thematic approach in mind, three themes emerged from the text in support of the concepts you'll find herein. Their presence is no surprise, as they are principles I value and have come to rely on over the years.

The first of these themes is **diversity**. I feel fortunate to have been exposed to a degree of diversity throughout my life. From a cultural perspective, I was born in Australia, where I spent the first 30 years of my life. My mother is Chinese, and my father was most likely Australian, although I can't be certain. In primary (elementary) school, I was the only child of Asian descent in a student body of approximately 600 students. Back then, Australia was less racially diverse than it is today. My reaction to the way other children treated me was to reject my Chinese ancestry. Fortunately, my attitude changed as I grew up, and I began to embrace the differences that come with diversity and to realize how those differences have enriched my life. In 2000, I moved to Ottawa, Canada, where I live with my wife, Deborah, an American Lutheran pastor. We live on the rural outskirts of Ottawa and share our home with a large family of cats and dogs. Career-wise, my interests have always been many and varied, but arts and technology were particularly important to me since an early age. I could never decide between the two and eventually developed parallel careers in the software industry and in music. I've long been fascinated by diversity in teams. In the arts, I am always looking for ways to bring together artists from multiple genres or disciplines. I like to form musical ensembles that include both classical and jazz musicians and perform works that span genres and challenge both musicians and audiences. I also like to stage productions that bring together artists

from a variety of disciplines, including visual artists, actors, dancers, and musicians. In business, I enjoy the dynamics of cross-functional teams, and I'm often trying to find ways to integrate multiple disciplines.

Unification is another strong current in this book. It comes from the belief that although people are all different, many ties bind us together. More specifically, although we all work and play in a wide variety of domains, certain principles are universally applicable. We all deal collectively with many of the same fundamental problems; only our contexts differ. Jazz musicians must constantly collaborate, innovate, and manage change, and they have to do so in real time. The same is true of a basketball team, a squad of soldiers, and a team in business. Although it's natural to look toward fellow disciples when seeking solutions to the problems we encounter in our work, I've found that some of the best inspiration can come from people working in completely different disciplines. In this book, you'll find examples of excellence drawn not only from software development and music, but also from business, military operations, and sports. You'll also find the application of laws from the disciplines of sociology, psychology, physics, biology, and systems theory.

The final theme that plays out in this book is that of **execution**. I am always concerned by the glut of leadership, strategy and management education, and the dearth of focus on execution. It's not simply that there are so many more words and minutes given to the former, and it has nothing to do with management versus those who work in the trenches. One person's strategy is another person's execution. Middle management executes the strategy set by upper management. Even the most senior people in an organization execute on behalf of a board, and they in turn are answerable to shareholders. The problem is that many leaders do not give enough respect or consideration to the realities of executing strategies defined in isolation. The result is usually failure that leads to finger-pointing all around. The strategies that are most likely to succeed are those created collaboratively with input from all stakeholders. Execution is another one of those universally applicable principles that must permeate an organization at all levels so that it moves in concert like a symphony orchestra. Successful artistic leaders who help deliver great performances with minimal planning and rehearsal understand and/or give due consideration to execution. In jazz, ensembles often execute with no plan or rehearsal whatsoever.

Reading This Book

The Jazz Process provides a framework for improving collaboration, innovation, and agility by offering a method for execution and 14 best principles that act on that method. Many books begin with an overview and then drill down into the details, a kind of "top-down" approach. In contrast, I've chosen a linear approach, resulting in a more natural progression for discussing the subject matter, somewhat akin to telling a story. Consequently, you won't see the big picture until we've laid a foundation by discussing five principles for working. If you just can't wait and you would like to see a high-level view right now, take a peek at the listing of the principles of the jazz process in the figure on page 85 and the execution cycle illustrated in the figure on page 98 in the "The Essentials of Execution" section in Part II.

As a domain-agnostic view of the way in which high-performance teams succeed in the face of challenges, the *Jazz Process* is inherently abstract. To put it to work, you must translate its method for execution and its principles into concrete practices that work specifically for your team and its activities. You'll find many concrete examples to help you do that throughout this book. As you read through this book, you'll find it beneficial to ask yourself how you can put the *Jazz Process* to work for you. You can find out more about the *Jazz Process* and even participate in discussions at www.jazzprocess.com.

Acknowledgments

Over the years, I've worked with many people in both arts and business. Working with all these artists and business professionals has taught me a great deal and provided me with invaluable experience, regardless of the outcome of our various projects.

Especially notable are the wonderful musicians of the Impressions in Jazz Orchestra and the guest artists, including many dancers and actors, with whom we've had the good fortune to perform. Whether it's been free jazz explorations, swing dances, big band concerts, sacred music, theater shows, or genre-spanning presentations that push the envelope, this fabulous group of artists has enthusiastically taken on the challenges I have put before them. Their passion, musicianship, and, most of all, willingness to collaborate have enabled us to entertain and educate time and time again. You can find out more about this fabulous ensemble at www.impressionsinjazz.ca.

In business, I've been fortunate to work with an amazing software development team at IBM. The team began its life as Object Technology International under the reins of founder and CEO Dave Thomas, a free-thinking visionary with a deep understanding of execution and delivery. In later years, Brian Barry provided this team with invaluable leadership. The group continues to do amazing work as part of IBM's Rational division under the leadership of Dave Thomson. Over the years, this team has produced such ground-breaking, world-class products as ENVY™/Developer, VisualAge® for Java™, the Eclipse™ Platform and Java Development Tools, and, most recently, IBM's Jazz® technology and the first Jazz-based product, Rational® Team Concert™. If you're a software developer, you may have used one or more of these products or been influenced by the way the team that produced them has achieved its success. I should note that this team consists not only of software developers, but also businesspeople representing many different functions. This multidisciplined composition is similar to that of any effective product development team, and as you will soon read, it's vital to the success of such teams. You can find out more about IBM's Jazz-based projects at www.jazz.net.

Jazz is built on Eclipse open source software, software that is vitally important not only to IBM, but to countless other organizations and individuals across the planet. Under the auspices of the Eclipse Foundation and its executive director, Mike Milinkovich, the Eclipse ecosystem has continued

to flourish. It is a vital part of thousands of software applications and a huge success story in the software industry, proving the benefits of openness, transparency, and decentralized leadership. You can find out more about Eclipse at www.eclipse.org.

Special thanks to Greg Doench at Pearson for believing that people would want to read this book and Lori Lyons for shepherding the book through the production process; Dave Thomson, Steve Kurlowecz, and Steve Stansel for helping me negotiate the IBM business and legal processes with speed; Erich Gamma, Scott Ambler, and Carol Yutkowitz for their feedback; Katherine Fick for her suggestions, encouragement, and humor; Karice McIntyre for her due diligence in the final iteration of proofreading; and, my dear wife, Pastor Deborah Ann Taylor, who supports me in everything I do and spent many hours editing my grammatical ramblings.

Finally, I must express how thrilled I was when jazz bassist John Goldsby agreed to write the foreword to this book. John is a world-class jazz musician, and I believe that much of his success comes from his deep knowledge of the jazz tradition and the dynamics of performing in both small and large ensembles. He has shared this knowledge over many years through his teaching and writing. Check out John's music and writing at his website, www.johngoldsby.com.

About the Author

Adrian Cho is well-qualified to draw parallels between the worlds of jazz, business, and software. A leader and innovative collaborator in the arts, he performs as a bassist and conductor and directs the Impressions in Jazz Orchestra, a unique, critically acclaimed symphonic jazz ensemble that brings together an impressive array of professional jazz and symphony musicians. Doug Fischer of the *Ottawa Citizen* labeled him "a musical missionary" while Melanie Scott of *WHERE Ottawa* described him as "one of our city's most adventurous musical renaissance men."

As a software development manager, he applies more than twenty years of experience to help teams deliver innovative solutions on time. Early in his career he consulted to a wide range of organizations, including retail and commercial banks and research and development labs at Fujitsu and IBM. For the past fifteen years he has helped to produce multiple class-leading and award-winning software engineering and team collaboration tools. At IBM he manages the global development of Rational Team Concert and Rational's Collaborative Application Lifecycle Management project. As a manager of intellectual property for more than ten years, he has played a key role in the Eclipse and Jazz initiatives of open innovation.

Dubbed "a cool guide to hot jazz" by Alex Hutchinson of the *Ottawa Citizen*, Adrian is a passionate educator who loves to write, speak, and perform. John Kelman of *All About Jazz* wrote, "Cho's intentions were clearly to educate as much as entertain, and he succeeded on both fronts." Adrian speaks and blogs regularly about high-performance teamwork at jazzprocess.com.

This page intentionally left blank

Introduction

Collaboration

Collaboration is the act of working together. The ability to collaborate with others is one of the most important skills a person can possess. No matter how inventive, creative, or productive you might be, as one person alone, you can achieve only so much.

The state of our planet would be radically different if we human beings did not possess the ability to collaborate. Forced labor is one of the oldest and crudest forms of collaboration, albeit one that is managed by duress. The Great Wall of China was built by millions of people, including soldiers, criminals, common people, and even children. Some estimates suggest that as many as three million people may have died as a result of the harsh working conditions they endured during the building of the wall. By comparison, the work force that built the great Egyptian pyramids was substantially smaller. It may have been as few as 20,000 to 30,000 workers strong, and possibly only a small proportion of that force may have been slaves. Regardless of the actual numbers, what's clear is that both the Egyptian pyramid builders and the Chinese wall builders were great organizers of labor. On a much smaller scale, our earliest ancestors would have cooperated to hunt and to protect themselves from predators. These accomplishments would not have been possible without our ability to work together.

The skills of collaboration are not unique to humans. Think about a pack of wolves hunting a moose, a colony of beavers building and maintaining a dam, or a group of humpback whales trapping fish in an amazing, innovative bubble net. Collaboration is present almost everywhere in our lives, both past and present, as well as in the world around us. Our natural tendency to work with others is so great that we have developed methods of mass collaboration, aided by technology, that enable us to harness the combined forces of multiple minds distributed across the planet. Projects such as the online encyclopedia Wikipedia are sustained by contributions from people across the globe. Open source software, powering most of the Internet servers

across the planet and becoming ever more widely used, is built and maintained in much the same way.

The benefits of collaboration are obvious. By applying more people to a task, you can reduce the time taken to complete that task. This assumes that multiple people can undertake the task simultaneously. Collaboration is sometimes a necessity because some problems are so large or difficult that they are impossible to solve without a team. The larger stones in the pyramids at Giza are thought to weigh as much as two tons. Even with the aid of the pulley lifting machines employed by the pyramid builders, one person alone could not have moved even one of these stones. The combined efforts of multiple individuals, however, could move them.

A very simplistic theory of collaboration would conclude that if a team of one person can perform one unit of work within a set period, increasing the size of the team would, theoretically, produce proportionally more work in the same amount of time. In other words, ten people could produce ten units of work.

In reality, collaboration involves overhead that results in less work being produced than might be expected. For example, ten people might be able to produce the equivalent of only eight units of work in the time that one person could produce one unit of work. Figure I.1 illustrates this. Collaborative overhead increases as the size of a team increases, and at some stage, the law of diminishing returns leads one to conclude that it doesn't make sense to add any more people to a problem. One of the most obvious sources of collaborative overhead is **friction**. This is one of the many concepts we discuss in the pages that follow.

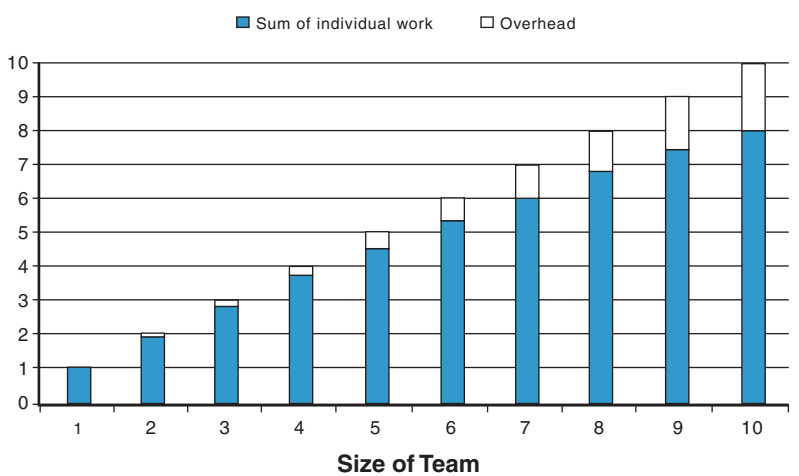

Figure I.1 *Cost of collaboration*

Synergy

In contrast to the overhead of collaboration is the principle of **synergy**, in which the combined efforts of many can be collectively greater than the sum of their individual efforts. This means that if we apply X number of people to a given task, we could theoretically accomplish *more than* X units of work within the same period of time. Figure I.2 illustrates the benefit of synergy combined with the overhead of collaborating. The benefit of synergy can partially or completely offset the overhead of collaboration.

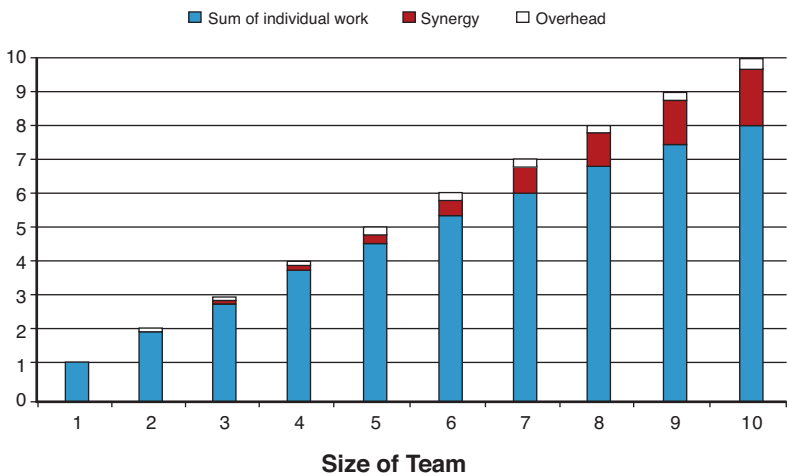

Figure I.2 *Benefit of synergy*

Synergy plays an important role in the political domain, where the outcome of an electoral or legislative decision depends on a total number of votes. Individual politicians might not draw enough votes to win a decision, but by forming alliances, they can aggregate votes and achieve their goals together. Many political partnerships—in fact, some of the most surprising and odd partnerships—have resulted from such a need. In the 2008 U.S. Presidential election, Republican John McCain chose Sarah Palin as his running mate, with the idea that she would inject energy and excitement into his campaign and win votes from the conservative, youth, and women's groups that McCain was having difficulty courting. Barack Obama chose Joe Biden for his foreign policy experience, seniority, and familiarity to long-time voters. These political examples demonstrate that synergy is often present when people combine complementary skills. Synergy is more likely to occur when the size of a team is limited, and a team is more likely to be effective when its composition is multidisciplined or cross-functional.

In the U.S. Army, a Special Forces Operational Detachment Alpha (ODA), or "A-team," consists of 12 soldiers. The team is led by a commander and a second-in-command, and the remaining ten positions are filled by an Operations Sergeant, an Assistant Operations and Intelligence Sergeant, and pairs of Weapons, Engineering, Medical, and Communications Sergeants. This doubling-up affords redundancy in case of personnel loss and allows the team to divide into smaller squads. Even with such duplication of skills, an A-team has a great deal of individual expertise. In comparison, regular army squads tend to have less individual expertise. A nine-soldier rifle squad consists of a squad leader and two fire teams, each with a team leader, one rifleman, one automatic rifleman, and a grenadier. Special Operations Forces (SOF) units such as those employed by the U.S. Army's Green Berets and Army Rangers, the Navy SEALs, Delta Force, and "hunter-killer" teams, whose very existence is classified, may be required to operate deep in enemy territory with limited or no support. In many cases, the government may deny their mission, or even their existence, if they are captured. They have a very real need to be as self-reliant as possible.

On a basketball team, each member plays a particular position and fulfills specific functions. The point guard is the team leader and often calls and sets up the plays. The shooting guard makes the long shots and often guards the opposing team's best player. The small forward scores near the basket and looks for rebounds and steals. The power forward, often the biggest and strongest player on the team, controls the space near the basket and is a key element in defense. The center, who is usually the tallest player, leverages his or her height when scoring, blocking shots, and grabbing rebounds.

In a jazz trio, each musician plays a specific role. The classic jazz trio includes piano, double bass (sometimes called acoustic bass, string bass, upright bass, or simply bass), and drums. Another common configuration is that of a drummer-less group employing a horn (such as a saxophone or trumpet), guitar or piano, and bass. In a piano trio, the piano plays a dual role as both the lead melodic instrument and the comping (short for *accompanying*) instrument that plays chordal harmony. The traditional role of the bass is to play the foundation of that harmony using roots of the chords. The primary role of the drums is to delineate the time and the groove. In the horn-guitar/piano-bass trio, the horn is the lead instrument, the guitar or piano comps, and the bass fulfills both its traditional role and that of the primary time-keeper.

A basketball team with only five players and a jazz trio with only three musicians have the same critical need for self-reliance as a Special Forces

team. They both rely on a cross-functional approach to deliver the greatest performance possible with limited resources. Synergy is a natural outcome when each member of these teams plays to his or her strengths and successfully combines talents with those of the other ensemble members.

Performing

Synergy is present when any ensemble or company of artists gives a great performance. In an orchestra, the combined result of all the musicians and a conductor performing together is greater than the sum of all the individual participants working alone. Think about the powerful impact of a great orchestra performance, and then think what it would be like to hear each individual musician play his or her part in isolation from the rest. Each musician would play the same notes, whether playing individually or simultaneously, but the impact to listeners is much greater when the musicians perform together.

As in high-performance business teams, artistic ensembles are staffed with passionate and committed practitioners. They must leverage collective individual contributions if they are to deliver a performance (product) that will attract and retain customers. Their performances must be delivered on time with close to zero defects. This must be accomplished in real time while the ensemble is subjected to continuous scrutiny.

If a theater company is scheduled to present a performance, it can't just decide one day that it's not ready and postpone the performance when tickets have already been sold. As they say, "The show must go on." Timeliness of delivery is critical in many other jobs. Consider, for example, the clergy person who must be at worship each week to lead a service and deliver a sermon. Think about the tax accountant who must submit accurate and complete tax returns in time, to avoid costly penalty fees.

High-quality production of goods and services seems like an obvious goal. But just how good does the resulting product have to be? Let's say 99.9 percent is good enough. A large artistic ensemble, such as an orchestra, may have 100 musicians who each play 1,000 notes in the course of a performance. That's 100,000 total notes the ensemble plays. If only 99.9 percent of those notes are good, there are still 100 bad notes that could mar an otherwise perfect concert or recording take. The United States Postal Service delivered 667 million pieces of mail each day in 2008. If 99.9 percent was good enough, the USPS would have lost 667,000 packages daily!

Artistic performers must not only deliver their performance on time, but they must also deliver it in real time. A company of ballet dancers can't just stop in the middle of a performance to make a decision at its leisure. The same is true for a jazz ensemble, as well as for the driver of a fully loaded gas tanker who must suddenly decide what action to take to avoid an unexpected traffic obstruction.

Regardless of your line of work, thinking about your job as a series of performances offers advantages. Your personal goal should be to give the best individual performance you can while ensuring that your team gives the best collective performance it can. Figure I.3 illustrates an operating framework for collaborative performance. In this framework, the team concurrently executes in all four of the quadrants so that they are simultaneously contributing as individuals, working together as a cohesive unit, delivering a high-quality performance on time, and creating a unique offering. The central box is a special one that represents the team's efforts being maintained from one performance to another.

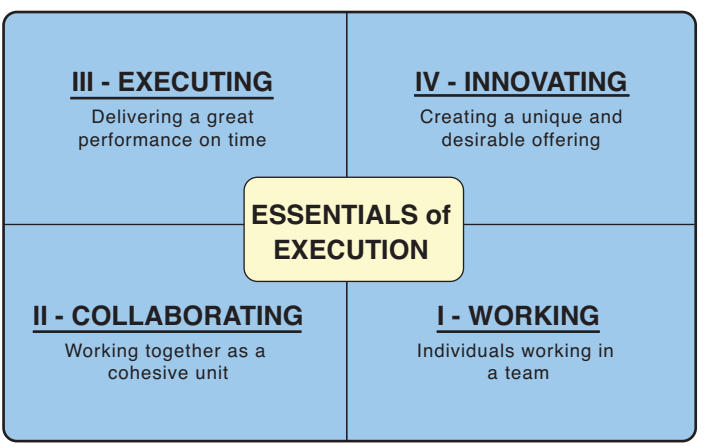

Figure I.3 *Operating framework for collaborative performance*

Learning from Jazz Performance

When jazz musicians perform, they create a unique style of music while confronting an equally unique set of challenges. They do not simply deliver a prepared product, but they must continuously create that product in the moment. In the movie *The Universal Mind of Bill Evans* (Carvell 1966), pianist Bill Evans says: