A Tale of Two Transformations

Bringing Lean and Agile Software Development to Life

Michael K. Levine
Introduction

THE CHALLENGE: IMPROVE SOFTWARE DEVELOPMENT PERFORMANCE

Are you frustrated that your software development projects deliver less than promised, at more cost than you would expect? Have you heard the promise of Lean and Agile software development, but you don’t know how to get your organization to adopt it effectively? Does your career success depend on improving your organization’s ability to deliver software-based business or product improvements? If so, this book is for you.

Software development is often a frustrating and difficult endeavor for business leaders. They are typically neither trained nor experienced in technology, but their success may be dependent on technological success. Likewise, technology leaders may understand what an effective environment looks like, but they may not have the management skills or experience to move there. If a development organization needs improvement, what is the best way to make it?

That is the question faced by the two narrators of this book, who tell the tales of the transformations they wrought in their two very different companies. You will have a ring-side seat at their sides, so you can follow their thought processes and learn from their successes and failures. By reading these intertwined, entertaining stories about two companies—MCCA and FinServia—you can get some ideas on how you might go about making change in your own organization.

THE COMPANIES

MCCA was a promising mid-sized company, bought by a private equity firm, and set on a path of rapid growth. Both its operations and its product development (which was primarily software based) were chaotic,
dependent entirely on the heroic efforts of a few dedicated and tireless individuals; its results were alternately spectacular and miserable. Its challenge was to standardize and improve its operations, and accelerate and make reliable its product development. Adding the right structure to the chaos was the goal.

FinServia, on the other hand, was a newly independent division of a much larger company. Its products and services had ossified, its customers hanging on out of habit and to avoid switching costs. Its operations and product development were highly regimented, slow to change, late to market, and behind the competition. FinServia’s parent company had recently failed in a major effort to strategically integrate its operations with other divisions, and for lack of a better idea, had turned it loose to try to compete on its own. Its challenge was to loosen the death grip of bureaucracy and wasteful process, and accelerate and make reliable its product development. Reducing initiative-killing overhead and giving people the room and structure to learn was the goal.

THE NARRATORS

This book is the tale of the transformations of these two companies, toward a common operational and product development process goal: Lean operations and Lean/Agile software development. The tales will interlock through our two narrators, Jim “Wes” Wesleyan and Mary O’Connell. Wes and Mary are a new couple, just starting their life together, as they help lead the change at their respective companies. They have varied experience with Lean/Agile software development, but they are both committed to it as a next-stage vision for their organizations, even though the companies start from very different places.

To illustrate a broader set of transformational challenges and approaches, our two narrators have very different backgrounds and temperaments. Our lead narrator, Wes, is a polished ex-consultant, trained initially in law but never practicing, skilled at communication and learning but not expert in product or software development. In contrast, Mary is a highly expert software product development leader, strongly technical, with passionate and committed views of how things should be done, and little tolerance for the fools who would do it differently. We will have the good fortune to listen in on their conversations as they guide each other in their own transformation projects.
THE CHANGE MODEL

Wes and Mary struggle and eventually come to grips with one of the critical leadership choices we all face as we seek to make change: To what extent should leadership direct change, versus inviting it? If we know where we are going, why not just tell our teams, top-down, to go there? Is that even a possibility when we are seeking to create a Lean/Agile ecosystem, where respect for people, expertise, and problem solving are core principles? On the other hand, if we invite change and get broad participation, how can we be sure that the “right” change happens, at the “right” pace?

As Wes and Mary evolve their thinking on this critical issue, two models of Lean/Agile change emerge: one is to drive people (directive), and the other is people driven (participative). They explore the business conditions that point toward one or the other approach, and they adopt different approaches based on their different situations. We watch and listen as they execute their change models and see the implications of each. Their thinking and their (fictional) experiences can help you drive your own improvements.

THE GOAL: LEAN AND AGILE DEVELOPMENT

Lean product development and Agile software development techniques are the latest advances (skeptics will call them fads) in software development, much as Lean operations is the latest advance in operations. In operations, Lean is about standardizing whatever work can be standardized and empowering people to continuously improve the standardized process. Lean operations include the concepts of one-piece flow, cadence, visual management, and an emphasis on hands-on expertise and seeing for yourself.

The extension of these ideas to software development recognizes that, when doing new things with new teams and new technologies, the amount of work that can be standardized is limited. Instead, emphasis is placed on harnessing the thoughts and ideas of many people, distilling those ideas into code that runs, and continually evaluating and adjusting to provide incremental and steadily increasing value. Often, the more the value, the less certain and predictable the development process, because new things are being conceived and built in new ways, by groups of people working together in
new ways. Lean product development and agile software development provide frameworks and techniques that facilitate this creative process, accelerating learning and reducing risks of failure, while sharing some of the Lean operating principles such as one-piece flow and visual management.

This is book is not a primer on Lean operations or Lean/Agile software development; if you’re unfamiliar and interested in a primer, there are other books, including my first book, A Tale of Two Systems. That is not to say that you shouldn’t read this book if you aren’t already well-versed in Lean and Agile; far from it: an in-depth understanding of Lean and Agile is not a prerequisite to read on. Our narrators will explain enough about their goals to keep newcomers from being lost.

**THE BOOK**

This book is about how to transform your organization to become Lean and Agile. The two fictional companies, MCCA and FinServia, represent two poles along the spectrum of companies requiring change. One is chaotic and lacks defined processes to a frightening extent, whereas the other is so tightly controlled and process driven that it is essentially frozen. Your organization is probably somewhere in the middle, or perhaps contains elements of both. By reading an engaging story, told through the eyes of two business leaders who are not specialists in change management (like most of us), you will gain an appreciation for what is required to bring Lean and Agile change to your organization.

The book is organized into five parts that take place over ten months. Along the way, signposts and guides are included (see the format in the chart), at the end of each chapter, to help you keep track of the two transformations, and to point out what you should be learning from the tales.

<table>
<thead>
<tr>
<th>Signposts</th>
<th>Signposts will summarize the major events of the chapter with respect to each project.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change Guides</td>
<td>Guides will point out lessons, as we see them now, at this stage of both transformations.</td>
</tr>
<tr>
<td>Coming Up Next</td>
<td>Coming Up Next will give you a preview of the next chapter, including who will be narrating and what the topic will be.</td>
</tr>
</tbody>
</table>

At the end of the book, in Chapter 14, I summarize the conclusions and principles based on my own twenty-five years of experience and studies in
business. The principles will be illustrated with examples from the tales, giving you a final chance to consolidate your thinking and providing guidance on how to transform your organization.

In both these tales, the change leaders had positions of formal authority within a defined domain, and they had strong support from their senior leadership. This book is about how to make change, not about how to build the case for change among nonreceptive leadership. We will, of course, be concerned about building support within the organizations that need to change, but in the context of alignment of goals and general approach with the top management. This book offers little in the way of how to get senior leaders to align with goals and approaches that differ from their firmly held conceptions, in a way that would enable those who desire change in an inhospitable environment to succeed. (Perhaps that is a topic for a follow-on book.) If you're facing those circumstances, my only advice is for you to find a way to make the changes in the scope under your own control, or if you need to work in an organization better aligned with your beliefs, find a different organization in which to pursue your career goals.

THE DISCLAIMER

Before we get started, I have one disclaimer: the events and people in this book are all fictional. This is not a story of any single project, any specific person, or any real company; it’s a universe I constructed for the sole purpose of instruction and entertainment. Neither is it about the specific technical debates, the nature of the systems being built, or the businesses in which the fictional companies compete; I created all of these merely as a foil to illustrate the principles. I caution readers against drawing conclusions from this fiction about people or events in real life.

Furthermore, all the opinions, perspectives, and conclusions are mine and mine alone. While I have learned much from my associates and experiences, all of the opinions expressed are personal and do not reflect any company’s policies or perspectives in any way.

Finally, I am not an academic expert in change management, and this book is not firmly grounded in extensive research. I have not spent my career guiding change in dozens of organizations, and I have not formally studied a broad set of change initiatives. It is based on my own experience, studies, and conclusions alone. I make no claim that what I show and
advocate in this book is “the best” or “the only” way to lead. I write this to entertain, to provoke thought, and to provide whatever guidance I can. My hope is that readers engage with the tales, reflect on the guides at the end of each chapter, and take whatever approaches, advice, and techniques make sense in their own situations.

ENDNOTE

Contents

List of Figures .............................................................................................................. xi
Introduction .................................................................................................................. xiii
Cast of Characters ...................................................................................................... xix

SECTION I Setting the Stage for Change: February

Chapter 1 Wes’s Challenge at MCCA: February .................................................. 3
Narrator: Wes
MCCA’s Past (in Microfilm) versus Its Future (in Information Management).............. 4
MCCA’s Transformation Goal: Fix Operations and Build New Technology Products........ 7
Wes’s New Organization and People ........................................................................... 14
Endnotes ...................................................................................................................... 20

Chapter 2 Mary’s Challenge at FinServia: February .............................................. 21
Narrator: Mary
FinServia’s Troubles: Glacial, Unresponsive Product Development .............................. 22
FinServia’s Transformation Goal: Faster and Cheaper .............................................. 28

Chapter 3 Setting Initial Approaches for Both Companies: February ................. 33
Narrator: Wes
Building a Lean and Agile Change Model ............................................................... 34
Comparing the Two Opportunities, and Selecting an Approach ............................... 40
Wes and Mary Make Their Initial Plans ................................................................. 43
Endnotes ...................................................................................................................... 48
SECTION II  Understanding the Landscape: March

Chapter 4  Getting to Know the MCCA Team and Culture: March ................................................................. 51

Narrator: Wes
Meeting My Development Team .............................................. 52
Transforming Operations, Including the Relationship with Sales ............................................................. 56
Wes Visits San Diego National Insurance ............................. 64
Preparing to Meet SDNI ............................................................ 65
Listening for Customer Value ................................................. 68
Understanding the Customer's Needs ..................................... 70
Endnotes .................................................................................. 76

Chapter 5  Reorienting FinServia's Relationship with GRI: March ................................................................. 77

Narrator: Mary
GRI's Death Grip on FinServia's Technology ......................... 77
Meeting with GRI: Being Clear about What FinServia Needs ........................................................................ 81
GRI Goals and the Win–Win ..................................................... 84
Endnotes .................................................................................. 88

Chapter 6  Solving the Chief Engineer Puzzle at MCCA: March... 89

Narrator: Wes
Finding a Project Manager to Handle Part of the Chief Engineer Role ............................................................ 89
Finding a Product Manager to Handle Part of the Chief Engineer Role ............................................................. 93
Endnotes .................................................................................. 105
SECTION III  Beginning the Transformations: April–May

Chapter 7  Six Weeks to Change the FinServia Organization:
April ........................................................................................................ 109

Narrator: Mary

Early Week One: Planning the FinServia Development Organization .........................................................109
   Option 1: A Functional Organization ......................................................... 110
   Option 2: A Divisional Organization .......................................................... 111
   Option 3: A Matrix Organization ............................................................... 112
   Option 4: Chief Engineers with Shared Support ................................. 114
Later in Week One: Planning the Transition with GRI .... 118
Week Four: Selecting the People ................................................................. 123
Week Six: Announcement Day ................................................................. 128
Endnotes ................................................................................................. 131

Chapter 8  Six Weeks to Start the MCCA Transformation:
May ........................................................................................................ 133

Narrator: Wes

Week One: Preparing for the Management Scrum ..........133
Week Two: Assembling and Training the Team .......... 136
   The Team Assembles: Overview Training ................................. 137
   MCCA Value Defined by Owners, Customers ...................... 140
   Lean Product Development Introduced .............................. 142
   Agile Software Development: An Implementation of Lean Product Development ........................................ 144
   Agile Introduced ........................................................................... 146
   Scrum Explained ........................................................................ 149
   Next Steps ................................................................................... 153
Week Four: Creating the Management Backlog and the Release Plan ................................................................ 154
Week Six: Lean Team Scrum Meeting .............................. 164
Endnotes ................................................................................................. 169
SECTION IV  Transformations
Take Hold: May–September

Chapter 9  Making Delivery Commitments at FinServia: May

Narrator: Mary

The Classic Struggle: Setting Dates and Costs 173
The Date/Cost Commitment Struggle at FinServia 174
Configuring Agile Releases: Distributing to and
Managing Multiple Backlogs 179
Endnotes 183

Chapter 10  MCCA Engages with Its Sales Force and Customers
at DocWorld: Late July

Narrator: Wes

Wes’s Six-Month Retrospective 185
User Conference Preparation: The Product Roadmap
and Customer Engagement Planning 187
Connie and Wes Agree on Sales Guidance 191
Partnering with Customers and Prospects: Demos and
Backlogs 195
Endnotes 199

Chapter 11  Sprint 1 Demo at FinServia—Dealing with
Disappointment: July

Narrator: Mary

Mary’s Six-Month Retrospective 201
Tools Can Help, Tools Can Hurt 203
Results of Sprint 1 Disappointing: The Sprint Demo 204
Discord during the Sprint 204
Ready or Not, Sprint and Demo 206
Reviewing the Plan for Sprint 1 207
(Lack of) Accomplishments of Sprint 1 209
Code Demo for Sprint 1 213
Sprint 1 Retrospective 215
Margaret Plans and Facilitates the Retrospective 215
Endnotes 229

Chapter 12  Jack’s Gambit at MCCA

Narrator: Wes
Phillip Spills the Beans .......................................................... 231
Getting Advice from Connie ............................................. 232
Jack’s Proposal ........................................................................ 234
Mary and Wes Consider Lynn’s Options ......................... 240
Lynn Hollander Makes Her Choice .................................... 241

SECTION V  Looking Back and Looking Ahead: December

Chapter 13   Sustaining Lean and Agile: December ................. 249

Narrator: Wes
Comparing the MCCA and FinServia Experiences ......... 249
Sustaining a Lean and Agile Software Culture .......... 255
  Building Towering Technical Competence .......... 256
  Building and Sustaining Cultural Values .......... 258
Strategic Planning and Study ............................................. 260
  Customer-Focused, Hands-On Leaders .......... 263
  Lightweight Processes ............................................... 265
Endnotes .............................................................................. 266

SECTION VI  Summary and Conclusions

Chapter 14   Transforming to Become Lean and Agile ............ 269

Summary of the People Driven Approach ...................... 269
Summary of the Drive People Approach ...................... 270
Vision and Leadership ....................................................... 272
  Set a Simple and Compelling Vision ................. 272
  Build a Supporting Coalition ......................... 272
  Make a Plan, Specific to Your Reality ............... 273
Use Integrating Events ..................................................... 273
  Accelerate Delivery ................................................. 274
Find Outside Wisdom ...................................................... 274
Encourage Engagement and Debate, within Limits .... 274
Understand Your Boundaries ........................................ 275
It’s (Almost) Always about the Money ...................... 276
People .............................................................................. 276
  Give Existing Leaders a Chance ......................... 276
  Let Obstructionists Continue Their
Careers Elsewhere.......................................................... 277
Stir Up the Pot by Adding Some New Blood.................. 277
Get Them to Do It Themselves........................................ 278
Build Chief Engineers, but Adapt to the Situation at Hand........................................................................ 278
Teach to Lead, and Lead by Teaching............................ 279
Spreading Knowledge—Institutionalize Knowledge and Learning............................................................... 279
“You Go to War with the Army You Have” or Build Your Capability before You Build Your Software........ 280
Organization ........................................................................ 281
Customer Focus .................................................................. 281
Demolish the Barriers: We Are All “The Business” ...... 282
Small Intact Teams .............................................................. 282
Process .................................................................................. 282
Process Can Drive Lean/Agile Change, but It’s Not Enough by Itself................................................................. 282
Start Slow and Simple......................................................... 283
PDCA Yourself! .................................................................. 283
Methods—Don’t Overprescribe ........................................... 283
But Do Insist on Some Basic Practices ............................... 284
Tools .................................................................................... 284
Tools Can Help, but Be Careful!......................................... 284
Vendor Partnerships............................................................ 285
Final Words ........................................................................ 286
Endnotes ................................................................................ 286
Index ..................................................................................... 287
List of Figures

Figure 0.1 MCCA, Partial Organization Chart (Mid-Year) .................. xviii
Figure 0.2 FinServia, Partial Organization Chart (Mid-Year) .......... xx
Figure 0.3 Acronyms and Abbreviations ........................................ xxiii
Figure 3.1 Lean and Agile software development .......................... 35
Figure 3.2 Three-dimensional Lean/Agile change ......................... 37
Figure 3.3 Dimensions of approach to Lean/Agile change ............... 37
Figure 3.4 Approaches to Lean/Agile transformation ...................... 38
Figure 3.5 Approaches to Lean/Agile transformation (final) ............ 39
Figure 3.6 Comparing change characteristics: MCCA and FinServia ........................................................................ 42
Figure 4.1 MCCA operations before reorganization ......................... 59
Figure 4.2 MCCA operations after reorganization ......................... 61
Figure 4.3 Comparing MCCA operations and product development conditions for change ............................................. 63
Figure 6.1 MSF roles ...................................................................... 101
Figure 7.1 Functional style development organization .................... 111
Figure 7.2 Divisional style development organization ...................... 112
Figure 7.3 Matrix style development organization ........................... 113
Figure 7.4 Mary O’Connell’s organizational proposal ...................... 115
Figure 7.5 Test manager interview guide (excerpt) ......................... 126
Figure 7.6 Tester comparison matrix summary ............................... 127
Figure 8.1 Lean Manufacturing Concepts in Scrum ......................... 145
Figure 8.2 Twelve Agile Principles ................................................ 148
Figure 8.3 Scrum overview ................................................................ 151
## List of Figures

| Figure 8.4 | Lean and Agile development | Page 157 |
| Figure 8.5 | MCCA Lean Team Sprints 1 and 2 | Page 163 |
| Figure 9.1 | Coordinating multiple module teams | Page 180 |
| Figure 10.1 | MCCA’s product line money tree | Page 189 |
| Figure 10.2 | MCCA Sales approach | Page 194 |
| Figure 11.1 | Burndown chart example | Page 210 |
| Figure 11.2 | FinServia Sprint 1 burndown | Page 211 |
| Figure 11.3 | Retrospective timeline | Page 218 |
| Figure 11.4 | Helps and hinders | Page 222 |
| Figure 13.1 | Approaches to Lean/Agile transformation | Page 253 |
| Figure 13.2 | Focus areas to sustain Lean and Agile | Page 256 |
| Figure 13.3 | Towering technical competence learning map | Page 258 |
| Figure 13.4 | Strategy deployment A3 template | Page 262 |
| Figure 14.1 | Drive people or people driven | Page 270 |