LEAN ENTREPRENEURSHIP

INNOVATION IN THE MODERN ENTERPRISE

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Lean Entrepreneurship: Innovation in the Modern Enterprise

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To Mom, Adrienne, Lila, and Carter:
Thank you so much for your unwavering love and support over these many years, without which this book would not exist.
To Dad: Sorry you missed this.

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To Lee Anne, Heather, and James. You were there for me throughout the entire journey that led to this book and always smiled when I said, "Sorry, I can't right now" as I wrote it. Thank you for a lifetime of unconditional love and support.

—George

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About the Authors

George Watt became passionate about technology and innovation at a very early age and built his first "computer" out of cardboard boxes somewhere around age 5. George led the design workshops for the Accelerator program described in this book and created and deployed its foundation artifacts and ceremonies. Throughout his career, George has delivered innovations of his own, such as a knowledge base for a neural network-based predictive performance management solution, one of the earliest private clouds (2005), and a lightweight event management agent. A transformative leader, George has spearheaded initiatives that have enabled organizations to address complex technology problems, deliver new business benefits, and drive millions of dollars in savings and productivity gains. George began his technical career as a systems programmer/sysadmin and systems engineer. He has held many national and global leadership positions, and has led global teams spanning North America, Europe, Asia, and Australia. As VP of Strategy for CA Technologies Office of the CTO, he is passionate about helping budding intrapreneurs turn great ideas into viable businesses, and he is responsible for the global scientific research, worldwide innovation initiatives, and the ongoing evolution of the Accelerator program. George is co-author of The Innovative CIO and tweets as @GeorgeDWatt.

Howard Abrams has worn many hats throughout his career, taking on diverse technical and leadership roles—from software architecture to user experience, and from mobile apps to enterprise software. Howard is currently a Distinguished Engineer and Senior Vice President at CA Technologies. He is responsible for CA's internal incubator, CA Accelerator, where incubations function like lean startups and internal innovators receive the support and funding they need to develop and test new products. Prior to joining CA, Howard held technical positions in organizations, including Muse Corporation, the US Navy, Paradigm Simulation, MITRE Corporation, and Jeppesen Sanderson. Howard has been granted 10 patents and has several additional pending. He holds a PhD in Computer Science from the Naval Postgraduate School as well as a BSc in Aerospace Engineering from Embry-Riddle University. Although he began coding at age seven in the Chicago suburbs, Howard now enjoys spending his free time with his wife and two children in the San Francisco Bay Area.

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K. Scott Morrison is a Senior Vice President and Distinguished Engineer at CA Technologies. He joined CA as part of its acquisition of Layer 7 Technologies, where he served as CTO. Scott is a passionate, entertaining, and highly sought-after keynote speaker. His quotes appear regularly across media, including in *The New York Times, The Wall Street Journal,* and on CNN. He has co-authored academic papers in medical, physics, and engineering journals, and holds 10 US patents. Scott lives with his family in Vancouver BC.

Foreword

Within days of joining CA Technologies in 2015, a bunch of product innovation projects landed on my desk for me to manage and review. As I looked through them, with their varying value propositions and market assumptions, there was no question that many of them stemmed from fantastic ideas. But what was also clear was that, along the way, or perhaps from their genesis, some important steps had been missed in terms of obtaining customer feedback, validating what was required for an initial minimum viable product, and sizing of the investments.

Interestingly, the one common element was that all of the business models had hockey stick-like market adoption projections turning a profit in wildly optimistic timeframes. The plans were precise, and, also, precisely wrong. It was clear that these innovation projects had all been shaped by their environment of large, mature businesses. As I looked at the haphazard collection of spreadsheets, PowerPoint decks, Word documents, and home-made demos, I thought to myself: There has to be a better way to harvest great ideas and turn them into businesses that add value to the company and its customers. It was in seeking this better way that the CA Accelerator was born.

There's plenty of myth about innovation today, perpetuated by Silicon Valley "unicorns" with humble roots in someone's garage which then grow exponentially in days and weeks to become billion-dollar endeavors. Yes, that does happen, but that world is far removed from the challenges that leaders and people with ideas face in innovating inside a large enterprise.

The need for large enterprises to innovate is nothing new. My time at Microsoft founding the Xbox and at HBO developing HBO GO taught me that, if anything, innovation is more crucial to driving the growth of large, established businesses than perhaps even for smaller startups. I also found that the scope of the ideas that could take root in large, complex organizations built to service and promote existing businesses were shaped—and limited—by the context of their environments. Xbox and HBO GO were successful innovations, but they by no means followed a startup trajectory.

In the case of Xbox, the game console market was already a multi-billion-dollar market when my co-founders and I started exploring the opportunity. There was no question that a large-scale and growing market existed, customer appetite for high-quality interactive content was well-proven, and repeatable business models had been established by existing competitors.

The name of the game was taking market share rather than establishing a new market. Furthermore, the game console market could not realistically be disrupted by some small, nascent startup. Establishing a meaningful foothold would require massive investment. For this reason, the first green-light funding check for Xbox was a billion dollars—not to deliver the first generation of a new console entrant, but simply to get started with the effort in earnest.

HBO GO and Time Warner's investment in building video streaming capabilities was also not an exploratory "what if" incubation. The company's efforts were in response to the traction that Netflix and other players were making in distributing content via the Internet and consumer devices, including Xbox. The fact that the Internet would disrupt media and video distribution and consumption of content was no longer in dispute. The question was what the company's response would be not only to survive digital disruption, but also to use it as an engine of growth. Again, building a video streaming service for millions of customers required a commitment of significant resources; customer demand had moved well beyond what a small-scale startup effort could deliver.

While they were innovative, both Xbox and HBO GO were large enterprise "big bet" responses to large, proven markets and clearly evident technology trends. Although innovation is never easy, large enterprises are well-suited to making deep investments. They have the resources, and operating at scale is in their DNA. In fact, not operating at scale is what seems foreign to a large, established business. How does an enterprise explore new business opportunities when the market doesn't yet exist or is too nascent to be meaningful in the short term?

Large enterprises can easily miss opportunities in new markets. I vividly remember a meeting with Steve Ballmer presenting a next-generation tablet concept—a 10.4-inch display, touch, and pen enabled, less than half an inch thin—that today you would recognize as a modern tablet. The meeting was over a year before the iPad launched, and although the meeting generally went well, Steve's summary was, "If there were a tablet market, it would exist already." It is of course easy to be too early or too late, but recovering from "too late" in today's fast-moving market is virtually impossible.

So how then can an enterprise create and support an efficient, repeatable framework for small, startup-style incubations exploring high-risk green field opportunities? As I examined the projects underway on my desk that first week, it occurred to me that if we could bring that startup mentality into the large enterprise, but temper it with the rigor and process that is a typically a large enterprise's strong suit, we might have a magic formula for transforming great ideas into real businesses.

There is nothing new about efforts to drive innovation inside the enterprise. "Skunkworks" have been around for decades, where people can experiment

away from the intense pressure to immediately add to the bottom line that most businesses demand. As one of the four original Xbox founders, I can attest to Xbox having gotten its start as an unapproved skunkworks effort. In retrospect, we were amazingly lucky to have been able to get traction for the idea within the company. The reality is that skunkworks typically carry the seeds of their own destruction in a lack of discipline around customer focus and an inability to answer the fundamental question: Is there a need for what my idea will do?

Today, the marketplace itself is driving the need for companies to constantly be inventing new products and services. As I wrote in my recently published *Digitally Remastered: Building Software Into Your Business DNA* book, a new world is taking shape. It's a world dominated by digital engagement. The convergence of the Internet, mobile devices, and pervasive connectivity has fundamentally changed the relationship between business and digital technology.

Most importantly, digital engagement changes the relationship with customers and is a powerful mechanism for sensing and responding to unmet needs. This "feedback loop" is a powerful force underpinning a new kind of customer intimacy that is 24/7, deeper than ever before, and requires a constant stream of continuously improving products and services to be satisfied.

This new operating environment has critical implications for how innovation and product development is done today. In the old days, this work could be done in a vacuum and then rolled out to customers, along with expensive marketing and sales models. But today, we live in a world of a fully digital customer journey—from discovery, to trial, to fulfillment—and the ways customers both buy and behave has changed forever. Not only that, but for products to truly meet market needs, they need to be developed in partnership with customers, and through ongoing iteration, constantly improved. This is the new landscape that enterprises face in driving innovation. It is not easy, but as you will read in the pages that follow, it can be done in a repeatable and very efficient way.

The CA Accelerator takes the best of the nimble, flexible startup and Lean principles and marries those with the processes and operating framework of the enterprise. Importantly, it is deployed within the context of a venture-capital style gating process and utilizes the modern approach to developing products that matter: engaging with customers early, and often, at every stage of an idea's realization and transformation into a business.

Howard Abrams and George Watt have laid out the methodology whereby any enterprise can incorporate productive innovation that can drive the bottom line, but also serve as a way of connecting with customers and other stakeholders around the problems they are trying to understand and solve in the digital world.

With this book as a guide, it's possible to see innovation come to life in a way never thought possible in medium- or large-scale organizations. The end result is a tool for not just customer engagement but employee engagement and talent retention. Starting with just a single-page "Lean Canvas," the founders in the CA Accelerator program bring their ideas to market in distinctly unique ways, but what they all share is a passion for innovation and making things that matter.

—Otto Berkes

Chief Technology Officer, CA Technologies

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Just as it takes a village to build an accelerator, it takes a village to write a book. We would like to thank all of the people who helped us as we wrote this book. We had an incredibly aggressive schedule and could not have written it without the kind assistance of Andrew Homeyer, David McNierney, Scott Morrison, and Jacquelyn O'Neill-Walsh. We would also like to thank Rita Fernando, Susan McDermott, and Kezia Endsley from Apress, and Karen Sleeth from CA Press, for your guidance and support.

Finally, there have been so many people who have helped shape our thinking and incubation program, and who have supported and guided us along the way, that we are nearly certain that we have unintentionally left someone out. Thank you. We are confident you know who you are, though we apologize for leaving you out nonetheless.

Introduction

If innovation was easy, everybody would be doing it

"Genius is 1% inspiration and 99% perspiration."

—Thomas Edison

"Forget it!" "It's just not worth it!"

Phrases like this have long replaced "Eureka!" in established organizations. We have all heard the legends of two garage-dwelling masterminds who had an amazing idea that started with "Eureka!" and became an "overnight success". If a small team, with almost no resources, experience, capital—not much of anything—can deliver such compelling value, why do we hear so often that innovation in established organizations is impossible? Mature organizations should have an enormous advantage. They have access to capital, experience, skills, channels, network, lawyers, marketers… it makes no sense that they cannot outperform those tiny teams.

The truth is that both positions are inaccurate. Innovation in established organizations is not impossible, and innovation in small teams is not always easy. Thomas Edison said, "Opportunity is missed by most people because it is dressed in overalls and looks like work." Who would know better than he? Edison had been working on his battery technology for 16 or more hours every day, seven days a week, for five straight months when his friend, W.S. Mallory, visited his laboratory. When Mallory learned Edison had made over 9,000 attempts at the battery without a single result that showed promise, he asked, "Isn't it a shame that with the tremendous amount of work you have done, you haven't been able to get any results?" With a smile, Edison shot out a reply that delivers great insight into the mind of a successful inventor and innovator, "Results! Why, man, I have gotten a lot of results! I know several thousand things that won't work."[1] With more than 1,000 patents to his name,

[1] *Edison: His Life and Inventions,* Frank Lewis Dyer and Thomas Commerford Martin, Harper & Brothers, 1910

Edison taught the world a lot about innovation. He eventually produced his battery after more than 10,000 attempts. Some say it was tens of thousands of attempts in total before he perfected it.

The Dirty Little Secret of the Overnight Success

Whether in a small team or the largest enterprise, bringing a great idea to life requires time and sweat. Just ask any self-made entrepreneur what life "in the early days" of their idea was like. While there are some exceptions, most often you will hear stories of hard work and hardship.

Consider well-known vacuum inventor, Sir John Dyson. It took him 5,127 prototypes and 15 years to get his cyclone technology working properly. In a column for *Wired,*[2] he describes his journey, and how penny-pinching eventually evolved into his wife giving art lessons to keep his dream alive. The "Sir" he can now place in front of his name is evidence his hard work and determination were worthwhile. By the time of that article's publication, Dyson was on the 35th commercially available version of the vacuum. He never stopped working—or learning.

So the dirty little secret of those instant successes is that they are not normally so instant, and they are usually stories of toil and sacrifice. Though that still begs the original question. "Why does innovation in established organizations seem impossible?" Or at least harder than going it alone. Certainly harder than it should be. Is success or failure in innovation simply a matter of luck? No! Nor should it be. My (George's) father used to say, "I'd rather be lucky than good—at anything". While we would never suggest you should turn down good fortune—a lucky break is great when it happens—luck is not a sound strategy.

Great ideas sometimes fail for fairly obvious reasons. For example, the Six Degrees social network, the Dodgeball.com location-based social service, and tablet pioneer GO corporation simply launched products that were too far ahead of their time. That can happen in established organizations or in standalone startups. This is not what we are referring to. The root causes of innovation failure in established companies are much broader and more insidious than this. Sometimes innovation fails in successful companies because the very process that drives their success creates massive innovation antibodies.

In his seminal book, *The Innovator's Dilemma*, Clayton Christensen explored this in depth. In the book, Christensen explained how the very processes that made companies successful were themselves antibodies to disruptive innovation.

[2] "No Innovator's Dilemma Here: In Praise of Failure," *Wired* Online, April 8, 2011 https://www.wired.com/2011/04/in-praise-of-failure/

We agree. Throughout our careers we have experienced this. Many times. We have had our own successes and failures. We have slain the dragons of bureaucracy and process and been slain by them. In addition, we have studied this phenomenon many times and even conducted our own research. We can tell you that, while Christensen's point is valid, there is even more to consider.

Whether you are alone in your garage or innovating in a large enterprise, there are several other, critical items that must be addressed deliberately in order to successfully bring new ideas to life in impactful ways, and to ensure they bring value to those who use them. We will guide you through other key risks that, left unaddressed, significantly reduce the chance of an idea's success. They can even damage the mature business. More importantly, we will explain what can be done to address these risks and challenges so your idea has the best possible chance to succeed.

In the next two chapters we will leverage our experience and research to expand on why attempts at innovation fail in established organizations. Understanding these traps and impediments can help you to avoid them and help ensure your ideas are successful. Though that understanding is not enough on its own.

Throughout our careers—in order to survive, and thrive, under these circumstances ourselves—we have had to develop specific strategies and tools for addressing these issues head on. Of course there were also failures, though we learned even more from those. Recently we put all of these things together to create a unique program, CA Accelerator, which we built specifically to give innovative ideas the best possible chance to succeed in an established organization.

In the remainder of the book we will share these strategies, tools, and approaches so you can use them to bring your own ideas to life; ensure you are building something worthwhile; and ensure neither you nor your organization impedes your progress or becomes the reason your idea fails. We will also share our program structure, ceremonies, and detailed artifacts so you can use them to create a program of your own.

What's in This Book?

Chapter 1, "Their Own Worst Enemy," explores the key reasons innovation fails in established businesses. We will share our personal experiences, hard-learned lessons, and stories of failure. We will also discuss key differences between new and established businesses, why they matter, and share the results of our research on innovation impediments in established organizations.

Chapter 2, "Unintended Consequences," explores the impact of the problems that are discussed in Chapter 1. It also examines how those problems lead to new and exacerbated issues and impediments that result in a not so

virtuous cycle of failure, which impacts morale and leads to a self-reinforcing culture of bad behavior. This behavior makes successful innovation much less likely, perhaps impossible, not only for those perpetuating those bad practices, but potentially for others inside and outside the incubating team. Ironically, the employees typically engage in these innovation-killing practices because they have, usually unwittingly, been incented to do so by the organization that would benefit most from their success. We will also discuss what can be done to address these unproductive behaviors by tackling their root causes.

Chapter 3, "Lean Acceleration," introduces a framework for continuous innovation and new business incubation. While innovation in isolation—without the support of the organization and its leadership—is possible in an established organization, it is much less probable. Innovators are likely to give up as they push against the momentum of corporate process and culture. The skills required to both accomplish this and be a successful innovator are rare, and those rare individuals will waste much of their time in a clandestine activity that does not advance their idea. This chapter introduces a framework for repeatable success and describes how we developed, deployed, and evolved our own program. This framework will enable intrapreneurs to move much faster than their standalone entrepreneur counterparts, providing the intrapreneurs with the freedom of a standalone startup as well as the resources and benefits of an established organization.

Chapter 4, "Inside the Accelerator," discusses the inner workings of key aspects of the program and describes the elements required in order to build a successful business incubation program of your own. This chapter discusses project ceremonies and structure, and key tools and foundational artifacts for driving speed and consistency. In addition, this chapter discusses several strategies for preparing the mainstream business executives who will govern the program for the key differences between their mainstream businesses and the nascent businesses they will govern.

Chapter 5, "Innovation Support Structure," explores the creation of innovation support infrastructure in your large organization. It discusses how the program elements created for new incubations can take advantage of your established business to drive speed, agility, and better decision making. It also introduces some of the innovative programs created by our Accelerator incubation program team, and by others who saw the value in our initiative. In addition, it discusses how to ensure new businesses created in your program are not eradicated by corporate culture and innovation antibodies after they "graduate" from your program and join the mainstream organization.

Chapter 6, "Benefits Beyond Revenue," describes how a program of this nature can help drive the long-term viability of your business beyond the obvious creation of new businesses. We have learned that our program can help improve the operation of mainstream businesses, develop employee skills, build new leaders, and drive a culture of innovation far beyond the

program's metaphoric walls. We share our experience and describe how you can leverage your program to improve the reputation of your business and improve your organization in other surprising ways.

Chapter 7, "Bootstrapping an Incubation Program," provides guidance regarding how to get your incubation program up and running. It goes into details about why it is important to get buy-in early and from a deep and broad set of stakeholders, many of which may not be obvious, as well as the need to make sure those stakeholders clearly understand what they have signed up for. These stakeholders need to understand all of the risks, the potential rewards, and the time it takes for businesses to incubate. The chapter also explores ways to prime your program not only to start working on the future of your company, but also to shake down your program itself. We share the benefits of taking existing skunkworks and unmanaged projects and using them to not only as a source of initial ideas, but also as a source of budget and a selling point to financial stakeholders. In addition, we describe a financial model you can use to estimate the cost of your program and measure its performance.

Chapter 8, "Inspiring Lean Innovation," shares some examples of how our strategies and approaches have been adopted outside our accelerator program, the benefits they bring to other parts of the company, and how you can drive those same benefits into your organization. It also provides examples of how other groups have extended the tools, techniques, and artifacts we use to create new, innovative approaches to their own domains.

Chapter 9, "Conclusion," summarizes our program and findings and provides some final tips for driving these practices into your business.

Innovation and breakthrough business incubation in established organizations does not have to be an exercise in futility. Though it often can be. Some would say it usually is. So let's begin our journey by examining why they might feel that way.