How is Agile changing the world?
Let’s begin with a bit of background.

If you are new to Agile Software technique, then the term sprint zero, as used in the title of this chapter, may not mean much to you, but for Agile practitioners it means the initial phase of work where you sort the project out to make sure you start properly when you’re about to tackle a large programming endeavor.
In Agile terminology, the word *sprint* refers to a one- to two-week chunk of work, during which a programming team sets specific goals for itself and then works swiftly to achieve those goals.

When work is organized this way, in small and manageable chunks, brilliant and remarkable results have been achieved in the development of large software systems, the kind that run banks, airlines, health care systems, and even governments.

This is in direct contrast to the well-documented inadequacies of non-Agile approaches, which have led to extensive delays, cost overruns, and sometimes brutally terminal failure.

### Epic Software Development Failures

You would hope that the technology industry has learned its lessons by now. But you might be wrong about that. The state of Oregon, for example, recently cancelled work on its massive online health care exchange, Cover Oregon, and switched over to the federal government’s system, but not before paying $134 million to Oracle for its years of work on the failed project.\(^2\) This certainly qualifies as an epic failure, but it is by no means unique in its epicness. Studies by Standish Group published in its annual CHAOS Report regularly find that nearly two out of every three information technology projects fall short or fail entirely for various reasons, most of which are related to the use of a dysfunctional process. This is an amazingly bad performance rate across an entire industry.

But this may be just the tip of the iceberg. Numerous reports and studies have looked at failed IT projects costing hundreds of millions of dollars, and even billions, including an $8 billion failed project for the U.S. government’s taxation agency (the IRS), a $170 million project for McDonald’s that was completely abandoned, a $600 million baggage-handling system for the new Denver airport that never worked, and a project for the London Stock Exchange that was originally budgeted at £6 million and was ultimately cancelled after 10 years and £800 million.\(^3\)
Hence, the intent of Agile to find a better way to organize IT projects is not a trivial exercise, but could in fact be significantly important.

The Agile movement was born in response to millions of dollars wasted in failed technology projects and the horrors of even bigger multibillion-dollar disasters. The movement was nurtured and refined by programmers and project managers who were fed up with the ignominy of it all, and who knew there simply had to be a better way. Not finding one ready at hand, they invented it.

Now Agile is being used everywhere, and for very good reasons: It works brilliantly well.

At the same time, the innovation movement has also been evolving, and it’s been having a clear and definitive impact on corporate strategy, and particularly on corporate results. Companies that have mastered the art and science of radical innovation and empowered ideation, collaboration, and corporate transformation are deservedly recognized worldwide as market leaders. They’ve got the magic and the mojo. They’ve got the market share, too, and the enviable stock prices.

We could cite the usual American exemplars: Apple, Google, Facebook, Starbucks, Procter & Gamble, and Tesla, companies that seem to have taken over the world with out-of-the-box thinking, novel products, and cool new business models. There are many examples in Asia as well, such as Alibaba, Baidu, Tata Group, Samsung, and Toyota. Europe, of course, has many as well—EasyJet, L’Oréal, Unilever, and SAP among them.

We also must note the very long and sad list of firms that were not able to sustain their presence at innovation’s leading edge, fell behind, and suffered greatly. Nokia (swamped by Apple’s iPhone), Yahoo! (displaced by Google), Kodak (which invented the digital camera and then missed the revolution), Xerox (missed the small office and home office copier market), Lucent (once Bell Labs, the pinnacle of technological prowess), and Sony (which fell from the heights to also-ran status) are only a few of the most famous disappointments.
What causes these companies to lose their mojo? What causes their innovation efforts to falter?

One of the main reasons, sadly, is reported by various studies and research groups ranging from the Product Development and Management Association (PDMA), to McKinsey, to IBM, which variously estimate that newly launched products continue to experience astonishing failure rates of anywhere from 30 percent to around 60 percent. In other words, between three and six out of every 10 innovation projects do not succeed, and even worse, this is happening at the tail end of an innovation pipeline process that was supposed to weed out the losers and focus scarce resources only on the winners. What a sad story of disappointment, what a tremendous waste of resources, and what an indictment of the innovation processes and methods that so many companies are using, which, obviously, are not working.

There has to be a better way.

WAIT, IS THERE . . . RESISTANCE TO CHANGE?

So why hasn’t every company made the shift to new and better methods? Perhaps you’ve heard some of these excuses in your organization . . .

- We already have too much on our plate.
- We just can’t afford an innovation [fill in the blank].
- The boss will never go for it.
- They don’t pay me enough to take on this kind of [fill in the blank].
- Why should I bother? Someone else will get all the credit.
- It’s way ahead of its time.
- Maybe next year.
- Too much chance of failure.
- We’ll try it after the merger.
- I’m not compensated for being innovative.
- The return on investment isn’t good enough.
- It’s not my job.
This is only a small sampling, of course. A Google search of the phrase *idea killers* will show some amusing but also painful and poignantly biting lists, including a collection of 103 different phrases offered on a website called freedom-school.com (if the website still exists when you read this book). Based on the sheer number of sites uncovered by our search for idea killers, it would seem that the sport of idea killing is quite a popular one, and indeed we’ve all witnessed this in meetings at one time or another.

So, given the prevalence of idea killing, how could we be surprised that people hesitate to take on the challenges of innovation? How unpleasant is it to be humiliated in a meeting by a sly zinger, meant precisely to derail your innovative spirit? Innovation is certainly filled with risk, uncertainty, and ambiguity, and these are definitely not characteristics that modern organizations are built to love. Quite the opposite is true.

On the other hand, given the tidal wave of change across society and the economy that has occurred over the past 20 years, how can any organization’s leaders believe that they can survive, or thrive, without adapting, and thus without innovating?

Simply put, only organizations that innovate have a chance of survival in the long run. Those that don’t . . . will not.

One of the major reasons for the explosion of change has been the technologies of the Information Age, a steady flow of innovations that have resulted in a miraculous 98 percent reduction of the costs of computing and communication during the past two decades.

Technological changes, however, arrive like tsunamis in wave trains, one after another, boom, boom, boom! Although what we’ve just experienced was certainly massive, it’s important to note that it was only the first wave, and bigger ones are on the way.

Such as? Another 100-fold increase in the performance/cost ratio for computing and communications will arrive during the next two decades, bringing with it even more disruption. This is roughly equivalent to taking all the power of every supercomputer that exists in the world today and stuffing it into your video game machine; it will be like turning your smartphone into a personal genius companion.
The impact on every industry, every company, and every one of us will be enormous and unstoppable as we experience unimaginable improvements in all the products and services we use across all aspects of our lives.

In the face of this impending onslaught, how can linear thinking, shifting the blame, idea killing, stalling tactics, static business processes, or even what we consider today’s best practices in innovation help us maintain our competitiveness? Alas, they can’t.

What’s already required today, and what will be absolutely essential tomorrow, is a rigorous process of innovation management that reliably creates better ideas, and effectively and efficiently turns those ideas into both tangible and intangible business value. This process will involve nearly every aspect of the organization, and thus everyone, so participation by the many rather than the few will be inescapably necessary. Everyone from the executive boardroom to the creative geniuses in the labs, to those who provide their deep expertise in a particular aspect of business, all the way down to the rank and file—in the real-time enterprise of the twenty-first century, innovation has to come, and will come, from everywhere. (As we will shortly discover, this brilliant innovative expertise will come from outside, too.)

It is therefore time for new thinking, focusing especially on how we can successfully redefine how we’re going to survive and thrive in the face of such tremendous competitive pressures.

That’s what we mean by Agile Innovation. Are you ready? Good, then let’s go.

The Secret Sauce of Innovation

There’s a saying among venture capital investors that “Entrepreneurs are like tea bags—you never know how strong they are until you put them in hot water.”

Companies, and their leaders, are the same. In today’s demanding business climate, there’s plenty of hot water for everyone, in the form of new technologies and new competitors that are providing plenty of challenges for your leadership team.
Despite the grumbling that accompanies a capital crunch or economic austerity, lean years are actually good for young companies. With people, challenges can build character; with companies, it can bond teams, enhance innovation, and instill operational efficiency. Many of today’s highly respected brands, including General Motors, IBM, Hewlett-Packard, Microsoft, and Apple, started during the lean times of recession. GM was founded during the panic of 1907, IBM was founded during the panic of 1910–1911, HP was born during the Great Depression, and both Microsoft and Apple were founded during the depths of the oil shock era when the U.S. gross domestic product plunged a daunting −3.1 percent.

One of the reasons that great companies emerge during bad times can actually be explained by the way learning occurs in the human brain. Neurophysiologists use the term plasticity to describe the brain’s capacity to modify its own organization, essentially the acquisition of new skills and learning. The concept of being plastic refers to something that can be easily shaped, or molded, meaning that it is not fixed. Hence, the plasticity of your brain refers to its capacity to learn, to be reshaped by experiences.

Interestingly, as recently as several decades ago, most neurologists believed that the brain’s neocortical areas were fixed after a certain stage of development, nonplastic. But recent studies have found that environmental conditions can alter behavior and cognition in adults as well as in children.4

This is big news. Science confirms that the adult brain is not static but that it, too, is constantly reshaped by experiences. The Agile Innovator therefore seeks to know precisely what types of experiences can be leveraged to accelerate learning, because learning is, of course, critically valuable to future success.

Stress can also be a powerful driver of change. Not overwhelming, paralyzing stress, but moderately high levels of difficulty and challenge actually do facilitate learning. Apparently, the brain admits to itself, “My survival is at risk. I’d better start paying more attention and focus on adapting, learning, and coming up with new ideas . . . right now.”
When you’re at risk, when you have skin in the game, then you’re motivated to focus and come up with genuinely brilliant ideas.

So our point is that starting a company when the entire economy is experiencing a higher-than-normal level of stress can lead to great outcomes over the long term. We see this clearly in the story of Southwest Airlines.

The 10-Minute Turn

When Southwest Airlines was just being established, numerous obstacles had to be overcome, not the least of which was that its basic business model was illegal in Texas, its home state, and new legislation was required for the company to commence operations. After some years of lobbying the company was within days of running out of cash when the legislation was finally passed and signed. After that, the frantic work began to create an airline.

Airplanes were bought, staff were hired and trained, advertising began, and then they started carrying passengers.

In the early days, the company operated four aircraft and served three cities, Dallas, Houston, and San Antonio, on a flight schedule that offered high frequency at a very low cost compared with its competitors. However, as is common with young businesses, it was not long before there was a cash crunch, and it became necessary to sell one of the four aircraft. This would necessitate cutting back on the flight schedule, which would in turn signal to customers that the company was in trouble and drive customers back to the competition, resulting, they realized, in a death spiral.

Consequently, it became necessary to accomplish something that was considered impossible: to fly exactly the same schedule with just three aircraft instead of four. This required that planes land, be unloaded, be reloaded, and depart all within 10 minutes, rather than the existing industry standard of 1 hour.
A SWAT team was formed and was given 72 hours—a weekend—to figure out how to do it. “Most of us, not having an airline background, had no idea that we couldn’t do this, so we just did it. We knew our survival was at stake.”

Without the pressure of imminent collapse, the transformation probably would not have happened, and certainly not in the decisive way that it did.

Also, as it turned out, there was an additional benefit that had not been part of the initial thinking. When aircraft are flying with passengers in the seats, they generate revenue, but when they are on the ground, they do not. Putting the aircraft back in the air quickly and flying a full route schedule with 25 percent fewer aircraft meant higher fleet utilization, resulting in a better return on assets and increased profitability.

During the 1990s, Southwest flourished while many other airlines were descending into bankruptcy, and its market capitalization kept growing, too. At one point, the combined market cap of American, Delta, and United was less than Southwest’s, even though in terms of revenue and assets Southwest was tiny in comparison. The 10-minute turn was a big part of its success.

The success of this innovation-under-duress also contributed significantly to the dynamic, innovative culture that pervaded the company. People throughout the organization continued to seek and to find new ways to reduce costs and expand revenues, not only at the behest of management, but often also following their own initiative.

Unfortunately for Southwest, its amazing run to greatness was interrupted by the events of 9/11, which indeed put all airlines into a defensive mode. And just at that point the other shoe dropped, in the form of rising fuel prices, which further hammered Southwest’s profitability. It has not escaped these pressures, and while the innovative spirit of the company persists, its (continued)
(continued)

...competitive advantage has significantly eroded while the larger airlines have finally recovered their footing in the market and on Wall Street.

What Southwest needs, perhaps, is a new generation of innovators to figure out how to differentiate the brand yet again and further develop the once-innovative business model. But it’s also possible that Southwest’s performance has regressed to the mean of the industry, and its days of superlative performance are in the past. It may indeed continue to be a great company, but without a brilliant innovation or two, it will no longer be an outstanding leader in the industry.

Under stress, groups respond just as the human brain does: they react with fear, they learn . . . and they innovate. Although the initial reaction may be an immediate urge to withdraw and resist, some advanced circuitry eventually activates. As people expand their creative capacity to solve problems, this invariably strengthens their long-term skills at adaptation and agility, thus providing manifold benefits.

And even better, you, in your role as Agile Innovator and leader, can promote, facilitate, and accelerate this kind of transformation. (More about that later.)

So, back to our point about starting a business in a time of stress—this era is one of those times of stress. The exploding Information Age, and all the change and chaos it’s creating, presents a real and significant threat to every organization, but at the same time it brings a remarkable opportunity for innovative thinkers to create or find brilliant new opportunities. The next Google, the next Southwest Airlines, the next Amazon.com, the next Facebook . . . they’re all out there.

But when will they make their move?

It could be that the strategy used by world-class bicycle riders to win races such as the Tour de France is the right strategy: Many of the best make their move when they’re climbing the toughest hills.
It works like this. In competitive bike racing, the riders begin in a single group, the *peloton*, or large mass of riders who are grouped together during most of the race. (*Peloton* is French for “ball,” as in a large ball of riders.) Because most of the riders remain tightly clustered in the peloton, only the few who are in the front face the full effects of wind resistance. Those drafting behind, much like in a school of fish, the V formation of birds in flight, or an auto race, don’t have to work nearly as hard to maintain the pace. Consequently, it’s very difficult for the lead riders to escape the peloton, because they’re already working so much harder than the other riders behind them and thus they simply lack the energy, a root problem related to the very nature of human physiology, and the factor that makes the sport of bicycle racing so very interesting.

The peloton effect is reduced, however, on hills, especially on steep ones, because everyone has to work much harder to ascend.

Steep hills give the strongest riders the opportunity to break away and outdistance the crowd because they put all the riders under more stress.

Hence, this is the tactic elite riders work so hard to perfect, that of timing the breakaway correctly, and then relying on superior conditioning to sustain the immense individual effort required to maintain a lead so that the peloton does not catch up. The greatest riders throughout the history of bike racing have been the very few who could do this consistently.

The same principle applies to business. During stable and good times the business environment is like flat ground. Under these conditions it’s very difficult for any firm to break away. The majority of contenders are content to remain in the peloton, reaping comfortable profits, conserving their energies, and waiting to pounce on any rider silly enough to try to break away. But great business executives take advantage of the hills, the major challenges, and they use those opportunities to make their break for leadership.

Hence, when there’s a recession or a major economic transformation occurring, such as the current digital revolution, it can be much easier to
break away from the peloton, from all those firms that are content to ride along in a large pack with everyone else.

Does this sound like an overly simplistic interpretation? A study by McGraw-Hill found that firms that advertise during a recession, those gutsy enough to make their move, receive an amplification of sales growth compared with competitors who cut back. The gain, or lift as they refer to it, was found to be an improvement of 135 to 275 percent during bad economic times for firms that stepped up their advertising. In other words, advertising packs twice the wallop during a recession (as long as you actually make it through the bad times).6

From Eighth Place to First

Another stunning example of stress-induced contrarian success is the story of Adolph Ochs, publisher of the New York Times from 1896 to 1935.

When he acquired the Times in 1896, it was the eighth-largest newspaper in New York City, with only about 8,000 readers. There was a brutal newspaper war going on at the time, and one of Ochs’s first moves was to reduce the price of his paper from three cents to one cent. Under his astute ownership, the paper grew by focusing on high journalistic standards at a time when most newspapers were still fiercely partisan, and the Times developed a very positive reputation for its objectivity.

By the 1920s, readership had grown to 780,000, but then came the crash of 1929. Ochs, however, did not succumb to the pessimism raging throughout the city, and at one point he issued this memo to his staff saying that “We must set an example of optimism. Please urge every department to go ahead as if we thought the best year in the world is ahead of us.”7

Despite Ochs’s optimism, major advertisers cancelled their contracts and the paper’s revenues plummeted. Ochs avoided layoffs only by opting to spend the $12 million surplus he had accumulated during the roaring 1920s, using it to pay salaries, keeping the staff intact despite steep losses. Perhaps more
important, he insisted on continuing to improve the editorial quality of the paper even as advertising revenue was falling significantly.

When the Great Depression finally ended at the outbreak of World War II his strategy had paid off, as the *New York Times* had more readers than any other newspaper in the country, which meant that it could also charge higher advertising rates. Ochs’s vision, commitment, and risk taking were all validated.

Ochs is a great example of a visionary leader who breaks away from the peloton by using a steep hill to put his competitors at a disadvantage. This move takes courage, perhaps great courage, as well as self-confidence, and a clear view of the future. Ochs had all three. So can you.

Remember, when you’re ready to try to break away from the peloton, the steeper the hill is, the more likely you are to succeed. This is true, that is, as long as you’re the best-conditioned athlete in the race and you have a brilliant plan.

Our hope is that this book can help you get in tip-top racing condition and inspire you to prepare and execute a magnificent plan.

Today’s pervasive bad news, the news that causes everyone else to moan and complain—the economic malaise, the chaos that the digital revolution created, the impacts of outsourcing, political instability, global competition—all of these offer amazing opportunities to outdistance your competition.

When you know how to leverage bad times and use the right amount of stress to enhance your creativity and to exploit the complacency and fears of your competitors, then you can indeed surge ahead.

**Be Your Own Revolution**

Is it your goal is to learn how to become a true innovator—that is, to develop both the personal mind-set and the organizational culture that embraces disruptive innovation as a core value, practices continuous
innovation as a core methodology, and produces breakthrough innovation as a consistent output?

The key characteristic of genuine innovation is the intent to avoid copying anyone else’s innovation process . . . because if you imitated somebody, you’ve already failed. Genuine innovation is all about finding your own voice, your own path to a new kind of creativity that you can call your own. It’s all about becoming your own revolution.

As Jobs said in his now-famous Stanford commencement address, “Your time is limited, so don’t waste it living someone else’s life. Don’t let the noise of others’ opinions drown out your own inner voice. And most important, have the courage to follow your heart and intuition.”

So, what does it take to become your own rebellion? World-renowned dancer and choreographer Twyla Tharp shares her view, similar to Jobs, that you have to go with your gut: “Dance is a tough life . . . and a tougher way to make a living. Choreography is even more brutal, because there is no way to carry our history forward. Our creations disappear the moment we finish performing them. It’s tough to preserve a legacy, create a history for yourself and others. But I put all that aside and pursued my gut instinct anyway. I became my own rebellion. Going with your head makes it arbitrary. Going with your gut means you have no choice.”

That’s the key to success—allow your intuition and inner brilliance to lead you, like an unseen hand, to your own path, and if that’s in defiance of the dominant paradigm, so be it.

It’s sometimes not so easy to believe in yourself so fervently, however. Sometimes even your own education holds you back, as the sad fact is that our education system is a remnant of the Industrial Age, created in response to the need to fill factories with compliant workers. This was not an unintended consequence but a specific objective, which we know because in the 1880s, when the movement toward compulsory schooling began, some railroad magnates opposed public education for fear that they would lose the workers who did the hardest jobs, clearing roadbeds and laying track. However, the first U.S. Commissioner of Education, William Torrey Harris, reassured railway baron
Ellis Huntington that the emerging American public education system was “scientifically designed not to overeducate” but to produce socially compliant workers.

Does that sound like an extreme interpretation? We thought so, too, until we looked a bit deeper. In his book *The Philosophy of Education*, Harris wrote these highly depressing but also very influential words: “Ninety-nine [students] out of a hundred are automata, careful to walk in prescribed paths, careful to follow the prescribed custom. This is not an accident but the result of substantial education, which, scientifically defined, is the subsumption of the individual.”

Hence, when you set yourself on the path to become an innovator this is part of the repressive legacy that you must overcome. Although the robber barons of the nineteenth century had no desire to cultivate among their future workforce the ability to think differently, twenty-first century organizations hunger desperately for creative thinkers and innovators.

Conventional schooling, however, often remains a genius killer, which even Thomas Edison noticed: “Somewhere between the ages of eleven and fifteen, the average child begins to suffer from an atrophy, the paralysis of curiosity and the suspension of the power to observe. The trouble I should judge to lie with the schools.”

It is perhaps for this reason that in 2013 PayPal cofounder Peter Thiel created 20 antischolarships for promising kids. He gave 20 youths under 20 years of age $100,000 each to drop out and start their own companies.

While we’re not recommending that you drop out of college, we do recommend that you relentlessly strive to improve everything about everything you do, including, if you choose, Agile Innovation. In the mastery of innovation you must, at some point, let go of all the textbooks and techniques and allow yourself to innovate your own approach to innovation, and thus to become your own revolution.

Courage, preparation, confidence, and exceptional skills—all of these are vital ingredients that will help shape your success.

We hope that you’ll also make great use of Agile methodology, which we’ll explore in depth in the next chapter.

Welcome to the revolution!
Questions to Reflect Upon

At the end of each chapter we offer a short list of questions for you to consider as you think about the themes and topics we have just covered. We hope you find them to be thought-provoking and therefore useful.

- How do you define innovation?
- How do you define agility?
- Like emptying a teacup in Zen practice, to make space for new knowledge, what can you unlearn from this book?
- If you could express the innovation culture of your organization in three words, what would they be?
- Who are your innovation heroes?
- What is it that you seek to learn from this book?
- Why are you reading this book, really?