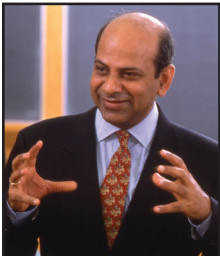


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INNOVATION

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VIJAY GOVINDARAJAN is the Earl C. Daum 1924 Professor of International Business at the Tuck School of Business at Dartmouth College, and was the first Professor-in-Residence and Chief Innovation Consultant for General Electric. He has been cited by *BusinessWeek*, *Forbes*, the *Economist*, and the *London Times* as a top thought leader in strategy. **CHRIS TRIMBLE**, a well-known innovation speaker and consultant, is also on the faculty at Tuck.

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PREFACE

For the past ten years, we have been deeply immersed in the study of innovation within established organizations. We cannot think of a better topic to which we could have dedicated our energies. Through innovation, business organizations can change the world.

There is just one little problem. Business organizations are not built for innovation; they are built for efficiency. The day-to-day pressures are enormous, and combining a discipline of efficiency with a discipline of innovation is just damned hard.

One seasoned executive casually asked us not long ago, “Is innovation within an established organization even possible?” We do not regard the questioner as a cynic. We respect the question. In fact, here is a brutal truth: our organizations today are only modestly more prepared for the challenges of innovation than they were fifty years ago.

We are hardly alone in this view. Ray Stata, founder and chairman of Analog Devices, a \$2 billion semiconductor manufacturer, is extremely thoughtful on the topic of innovation. About ten years ago, he said to us, “The limits to innovation in large organizations have nothing to do with creativity and nothing to do with technology. They have everything to do with management capability.”¹

The statement seemed provocative to us at the time. Today, after a decade of rigorous research, it seems an obvious truth. Most companies have plenty of creativity and plenty of technology. What they lack are the managerial skills to convert ideas into impact.

But how can this be? Today’s global business leaders are smart and talented. Many are experienced innovators, veterans of the whiz-bang late 1990s when everyone seemed to have innovation on their minds 24/7. Most have collected a few hard-won lessons learned.

¹Unless otherwise noted, quotations of business leaders come from interviews conducted between 2001 and 2010.

Nonetheless, there are limits to what executives can learn about innovation, even over an entire career. Innovations come in many shapes, sizes, and colors. They are context-specific. Experience from one endeavor often has little or no relevance for the next. A full perspective would require a career spanning multiple industries and multiple innovation types. Sadly, innovation initiatives are long and careers short.

Seeking insight outside their own experiences, executives often look to icons of innovation like Apple. Many have wondered: What is Apple's secret? What managerial magic led to the runaway success of the iPod?

But in ten years of research, not one of the companies we have studied has claimed to have innovation all or even mostly figured out. This is not a matter of modesty. In fact, these icons of innovation are usually trying to answer the same questions, only by looking in the mirror. They are asking themselves: What exactly did we do that made our past innovation efforts a success? How can we make innovation more routine?

This is what is currently happening, for example, at General Electric (GE). The company has a rich history of innovation successes, including breakthroughs in tungsten filaments for light bulbs, jet engines, and magnetic resonance imaging (MRI) devices for medical diagnostics. Nonetheless, GE faces the same difficulties we see everywhere and is now actively engaged in trying to figure out exactly what it has done when it has succeeded and how to reliably repeat it.

That is the current state of the practice of innovation, even in the world's best companies.

Nonetheless, we are highly optimistic. The organization of the future—the near future—will be much more adept at simultaneously delivering efficiency *and* innovation. (If you are eager to learn exactly how, please skip to the introduction.)

The Story of Management Research

We are so strongly optimistic because we have seen that while there are sharp limits to how much practitioners can advance knowledge about managing innovation on their own, partnerships between business and academia can

be very powerful. And management research has only recently advanced to the point that a significant breakthrough is possible.

Believe it or not, until recently, scholars have not aggressively advanced the field of innovation. Given the number of business schools around the world engaged in management research, this is surprising to many. It is less so when put in historical context.

The story of ideas about management begins at roughly the start of the twentieth century, around the time that the first business schools were founded. Back then, management thinking was rooted in experiences in factories, railroads, and assembly lines. People and organizations were viewed as mere components in the machinery of production.

Progress in advancing knowledge about management was slow through the first half of the twentieth century, in part because business schools viewed themselves primarily as trade schools, not research institutions. By the middle of the century, however, leading thinkers had at least acknowledged that people are different from tools and that organizations are more like organisms than machines. (Physicists were advancing their field somewhat more rapidly. By then, they had developed the theory of relativity and cracked the secrets of the atom.)

In the latter half of the century, business schools expanded their charters. They dedicated themselves to advancing knowledge about management through rigorous academic research. Many business concepts that today seem basic and mainstream originated from this new commitment and, thus, are newer than many people realize. It wasn't until the 1970s, for example, that senior executives widely accepted that their number one job was a newfangled thing called *strategy*.

By the 1980s, there had emerged a single, dominant strategic idea: to sustain success, identify an attractive industry, carve out a strong position in it, and defend it however possible—by creating entry barriers, for example. The notion of *strategy as stability* was powerful. At the same time, it is hard to imagine a doctrine more antagonistic to innovation. The mantra of the 1980s was one of fierce resistance to change.

The 1990s brought a backlash. A new group of strategists insisted that playing defense was futile. Change is unstoppable, they argued. All competitive advantages inevitably decay. Companies that resist change, those that fail to innovate, soon die. Therefore, strategy cannot be about maintaining

the status quo. It must be about creating the future. In other words, *strategy is innovation*.

This newer view of strategy is now widely accepted, and scholars are continuing to refine their ideas about the relationship between strategy and innovation. For example, there are many typologies that classify innovation efforts on the basis of their possible strategic impact. Innovations can be sustaining or disruptive. They can be radical or incremental. They can be competence-enhancing or competence-destroying.

While these classifications are useful in selecting *which* innovation initiative is likely to have the most powerful strategic impact, they offer little insight into *how* to make the innovations happen. Indeed, ideas about strategy and innovation have propagated much more rapidly than the managerial skills on which they depend. Can modern business organizations make *strategy as innovation* actually work?

Some of the most well-known researchers have taken a dim view of the possibility. Clayton Christensen has consistently warned that while established organizations will succeed with sustaining innovations, they will struggle mightily with disruptive ones. Chris Zook has recommended that companies take only small steps outside their existing business.

Their conclusions, however, are based on studies of what organizations have accomplished in the past, not what organizations might deliver in the future. Their research is akin to someone studying all the aircraft built through the mid-1940s, collecting voluminous statistical data, and claiming, on the basis of all available evidence, that traveling faster than the speed of sound is impossible.

Tell that to Chuck Yeager.

We believe that organizations *can* break the sound barrier. In fact, while acknowledging that there are still more questions than answers, we see no managerial reason why established organizations should be incapable of executing *any* innovation initiative.

How? The answers are becoming much clearer. There has been a dramatic and productive surge of research in the most recent decade. Our work is part of that surge. In this book, we offer practical new advice for senior executives, chief innovation officers, leaders of innovation initiatives, members of innovation teams, aspiring innovators, and all those who support innovation.

How We Produced This Book

The work that led to this book began in 2000, when we set our research mission: to learn by studying a variety of innovation endeavors in a variety of contexts, to generalize, and to prescribe. The endeavor has been satisfying, if lengthier and more labor intensive than either of us initially imagined.

Innovation research is challenging because very little can be quantified. Even a seemingly straightforward matter, such as calculating the profitability of a given innovation initiative, proves elusive. Corporations are under no obligation to make such information public. Furthermore, there are so many shared costs between innovation initiatives and other activities that five different accountants could easily provide five different answers.

The only effective way to study the management of innovation initiatives is to compile in-depth, multiyear case histories. Doing so is time consuming and expensive. It requires extensive interviewing, followed by the meticulous process of synthesizing hundreds of pages of interview transcripts and archived documents into meaningful narratives. This work requires access through unique partnerships with corporations, and corporations are generally willing to partner with only the top academic institutions.

We were fortunate to have the means and the opportunity to pursue this work through the William F. Ahtmeyer Center for Global Leadership at the Tuck School of Business at Dartmouth. With the support of many, we have assembled dozens of multiyear case histories of innovation endeavors. We believe that ours is the most extensive library of innovation case studies in the world. Several of the case studies are summarized in this book.

Five years ago, at roughly the midpoint of our effort, we wrote *Ten Rules for Strategic Innovators—From Idea to Execution*. This first book was, in essence, a midterm report. Until then, we had confined our study of innovation to a special case—high-risk, high-growth potential new ventures, the most extreme form of innovation. Studying extremes is useful for researchers. Extremes reveal fundamental principles with great clarity.

That said, the most common feedback we received after publishing *Ten Rules* was, “How do I apply these principles to the initiative that I am

involved with, which is not quite as dramatic as the case studies in *Ten Rules?*” At the time, we could make some conjectures. Now, we have answers. Our research is complete. We have collected case studies across the full spectrum of innovation initiatives—from small process improvements to high-risk new ventures. The principles and recommendations in this book span the full territory.

Our database includes one or more in-depth case histories from well-known and well-respected corporations such as Analog Devices, Cisco Systems, Corning Incorporated, Deere & Company, Dow Jones, Hasbro, Hewlett-Packard, IBM, Infosys, the New York Times Company, Stora Enso, the Thomson Corporation (now Thomson Reuters), and Unilever. (We have made these case studies available in full at www.theothersideofinnovation.com.) We also draw from interviews with several chief innovation officers and innovation leaders at companies including Aetna, Allstate, ABB, Ben & Jerry’s, BMW, Cargill, Citibank, Electrolux, General Electric, Harley-Davidson, Kimberly-Clark, Lucent (now Alcatel-Lucent), Mattel, Procter & Gamble, Sony, Timberland, and WD-40, and reviews of publicly available materials about innovation efforts at companies including 3M, Amazon, Booz Allen Hamilton, Dell, Disney, DuPont, Eli Lilly, FedEx, General Motors, Intel, Johnson & Johnson, Kodak, Microsoft, Nucor, Oracle, Philips, Polaroid, Porsche, R.R. Donnelly, SAP, Seagate Technology, Southwest Airlines, Sun Microsystems, Toyota, Visa, and Walmart.

For ten years, this work has energized us. It has convinced us, beyond any doubt, that while the problem of innovation within established organizations is daunting, it is solvable. The reflexes of efficiency can indeed be augmented with the muscles of innovation.

Onward.

—Vijay Govindarajan

Chris Trimble

Tuck School of Business at Dartmouth

Hanover, New Hampshire

INTRODUCTION

Making Innovation Happen

THE CLIMBERS AWOKE just past midnight after hardly sleeping at all. They were excited and alert. They were among the nearly ten thousand climbers each year who attempt to reach the heavily glaciated summit of Mount Rainier in the northwestern United States. It is perhaps the world's most difficult climb that is accessible to novices, so long as they are accompanied by expert guides.

The first hour of the climb was easy. Each subsequent hour was harder. Finally, at dawn, the climbers got their first glimpse of the summit. It was as they had imagined—majestic and inspiring, gleaming in the morning sun. The climbers focused all of their energies on getting to the top.

With each step, however, their labors became more excruciating. Muscles ached. The air became thinner, and some of the climbers became dizzy. Some contemplated the very real possibility that they would not be able to make it. Each year, nearly half of those who attempt to reach the summit turn back unfulfilled.

But these climbers persevered. Step by step, they reached the summit. They were jubilant and exhilarated. Months of preparation had come to fruition. To be atop Mount Rainier is to sense that you are on top of the world. The city of Seattle lies more than fourteen thousand feet below.

But their adventure was hardly over. They still had to get back down.

Their expert guide was ever mindful, in fact, that the descent from Rainier's summit was actually the more difficult part of the expedition. Climbing a flight of stairs may be harder than descending. Hiking to the top of a local peak may be more difficult than the return trip. But Rainier is different. It is a dangerous mountain, one that claims a few lives each year.

The snow on the surface of the glacier can collapse into interior caves and tunnels, and climbers can slip into deep crevasses. As each hour passes, sunlight and rising temperatures soften the snow and increase the risk. Climbers are deeply fatigued and prone to mistakes.

No matter how many times they are told of the dangers in advance, climbers naturally relax at the summit. The glamorous part of the quest is over. The big aspiration—the big dream—has been fulfilled. The trip down is, instinctively, an afterthought.

Having invested very little of their emotional energies in the descent—and having little physical energy remaining—the climbers took their first steps down the other side of the mountain.

The Other Side of Innovation

There is a Rainier-like summit in the innovation journey. It is the moment a company says yes! That's a great idea! Let's take it to market! Let's make it happen!

Getting to the summit can be difficult. It might involve years of scientific research, months of building prototypes, endless creative brainstorming sessions, exhaustive market research, in-depth strategic analyses, intense financial modeling, and more. Dozens or even hundreds of possibilities might be eliminated before . . . finally . . . the search comes to fruition.

The challenge of reaching the summit lures many. It captures the imagination. The summit is majestic and inspiring. It gleams in the sunlight.

Indeed, getting a group of businesspeople engaged in a Big Idea Hunt is usually easy. Brainstorming sessions are fun! Out-of-the-box thinking is energizing! Ideation is cool! Not only that, generating a breakthrough idea is glamorous. It wins great status. If *you* come up with the brilliant idea, then *you* will always be associated with it.

Getting to the summit can seem like the fulfillment of a dream, but it is not enough. After the summit comes the other side of innovation—the challenges *beyond* the idea. *Execution*. Like Rainier, it is the other side of the adventure that is actually more difficult. It is the other side that holds hidden dangers. But because the summit itself has such strong appeal, the other side is usually an afterthought. It is humdrum. It is behind the scenes. It is dirty work.

Ideas Are Only Beginnings

Companies think far too little about the other side of innovation, and we are not the first to say so. In 2007, IBM ran an advertisement intended to convey that it could help its clients innovate. It featured a pudgy mock superhero sporting a capital “I” on his outfit who introduced himself as “Innovation Man.” A bemused colleague asked, “And your job is?” The superhero responded with gusto, “I for Ideation! I for invigoration! I for incubation!” The onlooker replied, “What about I for *Implementation*?” Innovation Man answered, “I knew I forgot something.”

We loved the ad. It captured so humorously and yet so perfectly the off-balance approach to innovation that is commonplace in corporations around the world. There is too much emphasis on ideas, not nearly enough emphasis on execution. Thomas Edison made essentially the same observation more than a century ago: “Genius is 1 percent inspiration and 99 percent perspiration.”

Nobody listened.

Several companies have shared with us their maps of the innovation process. These maps are revealing. One typical diagram showed innovation as a four-stage process: *generating ideas*, *refining ideas*, *selecting ideas*, and, finally, like a lazy afterthought, *implementation*.

No wonder, then, that so many innovation initiatives hit a wall. The guiding managerial model for innovation is just too simple. It reduces to:

$$\text{innovation} = \text{ideas}$$

As a result, most corporations have more ideas than they can possibly move forward. Far too many promising ideas on paper never become anything more than . . . promising ideas on paper.

Here is an improved equation for innovation:

$$\text{innovation} = \text{ideas} + \text{execution}$$

Take just a moment to rate your company on a scale of one to ten, first for its ability to generate innovative ideas, then for its ability to execute them. Repeatedly, when we do this exercise with executives, they rate their companies relatively high for ideas—say, seven or eight—but quite low for execution—typically one or two.

Where is there greater room for improvement? Yet most companies, in their efforts to improve innovation, focus entirely on the Big Idea Hunt. Focusing on ideas may unleash more immediate energy, but focusing on execution is far more powerful. And innovation *execution* is what this book is all about.

A Tale of Two Recessions

When we launched the research that led to this book in 2000, innovation was all the rage. It was the height of the dot-com boom. How quickly things changed. By 2001, markets were in a tailspin and the diagnosis seemed clear. Too much innovation! Too much hype! Too much belief in the power of the Internet to transform the world overnight!

Yet, many of the visions incubated during the dot-com boom *did* come to fruition. It just took a lot longer than anyone anticipated. For example, it turned out that there was tremendous value in business-to-business e-commerce. It just turned out to be much more complicated than online retailing, and so it took much longer to get it right. And the Internet did turn the music and video industries upside down, but not until there was widespread availability of high-speed Internet connections. A better diagnosis of the dot-com bust is: “Great ideas, haphazardly executed.” With a more careful approach to implementation, far fewer dollars would have been lost.

In 2010, as we completed our research, the economy was in an even deeper recession. But this time, innovation was not seen as the source of the problem. It was seen as the solution to the problem.

Can the U.S. auto industry reinvent itself? Not without a range of innovative new products. Can the health care industry find a way to deliver access and quality *and* keep costs under control? Not without commercializing entirely new approaches. Can the global energy industry create a future far less dependent on fossil fuels? Not without breakthrough victories in renewables.

There is no shortage of great ideas on how to address these major challenges. The critical questions, then, are: What did we learn from innovation failures of the past? Are we better prepared to convert great ideas into great impact? Are we ready for the other side of innovation?

Innovation Comes in Many Shapes and Sizes

Let's take just a moment to define *innovation* and, in doing so, define the terrain for this book. We take the broadest possible perspective. An innovation initiative is any project that is new to you and has an uncertain outcome.

People have often described their initiatives to us and asked, "Is that innovative?" The question always amuses us a bit. We've never really viewed ourselves as authorities on what counts as innovation and what does not.

We've found that there is very little value in trying to draw the line. From small and simple projects to grand and gutsy gambles, it is all innovation to us. When a salesperson experiments with a new pitch, it is innovation. When a company spends hundreds of millions of dollars to launch a high-risk new venture, that's also innovation.

That said, some innovation projects are much harder to execute than others. Sometimes the other side of innovation is a hop, skip, and a jump; other times it is a perilous descent from Rainier.

As part of our work, we've experimented with tools for assessing the managerial degree of difficulty of an innovation initiative. As it turns out, only two ratings are really needed: *routine* and *difficult*. There is not much middle ground. Well-managed corporations have mastered the other side of innovation for a subset of initiatives—the routine ones. This book delivers a prescription for all other initiatives—those that even the best-managed companies struggle with.

Before we do so, however, it is important to understand, briefly, what corporations have already mastered. What works? Why? And, more critically, what are the limitations? We look at two examples, Nucor and Deere & Company.

Continuous Improvement at Nucor Corporation

Nucor may not be a household name, but it is a remarkable company that unleashed the power of innovation in a decaying industry. Nucor makes steel. The company was of inconsequential size in 1970, but grew at an average of 17 percent per year to over \$4 billion in revenues by 2000 while returning 20 percent on equity. During the same time frame, the

U.S. steel industry struggled as it wrangled with competition from abroad, threats from alternative materials, and strained labor relations. In fact, the industry delivered one of the worst profitability and growth records in the economy.

Nucor's success cannot be attributed to a breathtaking strategy. Its strategy was plain and simple: operate efficiently and compete on costs. Therefore, Nucor could succeed only by innovating every day.

The company's model for innovation was not mysterious. Nucor galvanized the energy and ingenuity of its workforce. The company did so with two essential policies:

- To stimulate *ideas*, Nucor cross-trained its employees and rotated them among plants.
- To *motivate* each employee to find innovative ways for improving production efficiencies, Nucor paid for results. Base salaries were actually low for the industry, but bonuses ranged from 80 percent to 150 percent of base wage. Those bonuses were paid weekly based on the number of tons of steel produced that met quality standards.

Thus, Nucor's model for innovation can be reduced to a simple equation:

$$\text{innovation} = \text{ideas} + \text{motivation}$$

This combination created an environment in which innovation happened through grass-roots action, as close to the front lines as possible. When employees saw a way to improve performance, they simply took the initiative to make it happen.

We have seen several well-managed companies make the *innovation = ideas + motivation* model work. In fact, when companies speak of a "culture of innovation," this seems to be what they mean—an environment in which creative ideas are plentiful and employees are empowered and motivated to do something with them.

However, as powerful as this approach can be, and as potent as it proved for Nucor, consider what this model for innovation is *not* capable of. It quickly runs into a brick wall. What if pursuit of a particular innovation initiative requires more than the small sliver of free time that individual employees have left over after fulfilling their day-to-day responsibilities?

Imagine that you work on the factory floor at Nucor and you have a big idea for improvement; maybe it is a major reconfiguration of materials flow through the steel mill. Even if it is a powerful idea, it is far beyond your ability to pursue while on the job. You might try to gather some friends to contribute their energies, but even if you are very persuasive, the total resources available to you are tiny—a handful of employees and their spare time. Any project requiring more resources than that withers. It can get little further than the idea stage.

Innovation in the form of continuous process improvement is certainly possible with an *innovation = ideas + motivation* model. And, as Nucor's experience shows, thousands of small steps can add up to a powerful result. Still, larger innovation initiatives require a different approach.

Product Development at Deere & Company

One of Deere & Company's most important product lines is world-class tractors for large-scale agriculture. These are complex machines. Hundreds of people are involved in designing and bringing each to market. It takes about four years and \$100 million to design just one.

A company as well managed as Deere doesn't spend \$100 million casually. It brings as much discipline to the task as possible. In fact, the company treats product development much like any other business process. It tries to make it efficient and reliable.

Indeed, over many years, Deere & Company has gone to great lengths to perfect its recipe for developing new tractors. Documentation of the process constitutes, literally, several weeks of reading. As a result, everyone on the product development team understands his or her role. Everyone understands that he or she is accountable for completing each step in the design process on time and on budget.

Deere & Company's capability to quickly and efficiently launch new tractors with cutting-edge technology is impressive. At a high level, its approach to innovation is shared by many companies. It can be reduced to a simple equation:

$$\text{innovation} = \text{ideas} + \text{process}$$

The execution challenge is reduced to creating a step-by-step process that can be used again and again. Such an approach can be powerful.

However, any formulaic process for innovation is also a narrow and specialized capability. It relies on each new product being mostly similar to previous-generation products. Make design changes that are too significant (we will zero in on “too significant” in chapter 1), and any well-oiled innovation process stumbles. A more robust model for execution becomes necessary.

Getting Beyond the Limits

The *innovation = ideas + motivation* formula can generate thousands of small initiatives, but does not support projects requiring resources beyond a few people and their spare time. The *innovation = ideas + process* model can efficiently crank out innovation after innovation, as long as each initiative is mostly a repeat of prior efforts.

Well-managed companies are adept at both models for innovation execution. We will give them no more attention in this book. We focus only on innovation initiatives that lie beyond these capabilities.

In a fast-changing world, innovation beyond the limits of these two models is critical. But what are the alternative models?

Here is a story that is familiar to us from our research and is probably familiar to you as well. It is a composite of the innovation struggle at many of the companies we have studied.

Times are getting tougher for the CEO. Growth in core markets is declining. Customers are demanding more. Competition is intensifying. Margins are shrinking. To restore high performance, the CEO announces a major effort to stimulate innovation and organic growth. After a few months of generating ideas, researching ideas, refining ideas, analyzing ideas, reviewing ideas, contemplating ideas, comparing ideas, testing ideas, and turning ideas into business plans, the CEO makes a commitment to the single best option, the “Great Idea.”

What’s next? The road gets considerably steeper. First of all, *who* will move the idea forward? Everyone in the company already has a full-time job. In fact, the company’s best leaders have the most critical jobs sustaining excellence in the existing business. Nonetheless, the CEO recognizes just how important the initiative is and taps a fast-rising, ambitious, up-and-comer. The CEO tells the leader that he has a great deal of latitude. Just do what is necessary, he says. Break some eggs if you have to.

The young leader is excited about the opportunity. He views it as a powerful chance to differentiate himself from his peers and advance his career. Furthermore, he is thrilled by the open-ended charter. It is all so empowering! Just make it happen! It seems like a dream job.

It is not. The aspiring leader has been set up to fail. He just doesn't recognize it yet. The first few months go well, but reality soon sets in. It is not easy for one person to create change in a large corporation. After one year, the leader feels as though he is trying to make innovation happen inside an organization that is, in every way, determined to fight his every move. The general manager of the company's largest product line is anxious about the possibility that the innovation will cannibalize him. Marketing is uncooperative, worried about possible damage to the company's brand if the new product fails. Manufacturing is upset that it has to schedule small, inefficient runs for the new product. Salespeople are reluctant to push a product without a track record. Human resources is unwilling to waive compensation rules to hire a few experts that the project badly needs. Finance is concerned about margin dilution. Information technology claims that the project is too small to warrant exceptions to standard systems and processes.

Undaunted, our hero summons all the energy, courage, and moxie he can. He pushes, and then he pushes harder. But the path doesn't get any easier. In frustration, he goes a step further, fashioning himself a rebel and a subversive. He fearlessly, or maybe even recklessly, flaunts authority. He tells himself daily that it is always easier to ask forgiveness than it is to ask permission. *Break all of the rules* becomes his mantra.

In the end, however, it is our leader who is broken, and the innovation lost. Sadly, it is only in fantasies and fairy tales that heroic rebels overcome long odds to achieve glory. In the real world, they fail, and their company fails with them.

Our hero is not at fault. The company's simplistic model for innovation is to blame. It is a model that puts the full burden of execution on an individual leader:

$$\text{innovation} = \text{ideas} + \text{leaders}$$

This model is commonplace. After committing to a Great Idea, many companies put great emphasis on finding the Great Leader to execute it, as though that is all that is required. The assumption is that a talented and

empowered leader ought to be able to overcome whatever barriers an entrenched organization erects.

The notion is convenient and attractive. In fact, just a couple of decades ago, most of the formal research on the other side of innovation focused on the personal leadership traits and characteristics of innovation leaders. And one of the most frequent questions we get when speaking to executives is, “How can I identify the best innovation leaders in my company?”

We do not dismiss the importance of innovation leaders, but we believe it is dramatically overemphasized. Choosing a talented leader is never enough. One person against “the system” is an extraordinarily bad bet.

Organizations Evolve for Performance

But why is it such a bad bet? Why is it that innovation leaders so often feel that their biggest enemy is not the competition but their own company? There is a simple answer. *Organizations are not designed for innovation.* Quite the contrary, they are designed for ongoing operations.

Companies do not start out this way. At launch, there aren't any ongoing operations. Everything is innovation. But this quickly changes. Soon after a start-up reaches its first commercial success, a new challenge emerges—making operations as profitable as possible. Demands for profitability only get stronger as the company grows and matures. This evolution is natural and unavoidable. Early investors want innovation, excitement, and growth. Later investors want profits. They want reliable profits.

To satisfy investors, companies strive for productivity and efficiency, and their organizations evolve to deliver it. They focus on serving their customers better than their rivals. They excel at being on time, on budget, and on spec. They get a little bit better, a little bit faster, and a little bit cheaper, every day, every month, and every year. They are disciplined and accountable at every level.

The pressure for reliable profits, each and every quarter, is *the* force that shapes and molds companies as they grow and mature. Inevitably, organizations evolve into what we call *Performance Engines*.

Fundamental Incompatibilities

Strong and healthy companies have strong and healthy Performance Engines. At the same time, the stronger the Performance Engine gets, the more difficult innovation becomes. The first rule of innovation is simple: *Innovation and ongoing operations are always and inevitably in conflict.*

The most readily apparent conflict is the tension between short-term and long-term priorities. Every company struggles with it. Under pressure to deliver profits every day, the Performance Engine instinctively swats down innovation initiatives—or any project, for that matter, that cannot make an immediate contribution. Managers at middle and low levels who face rigid performance targets each quarter can be powerless to overcome this reflex.

But the incessant drive for immediate profits only partially explains the struggle to innovate. At more senior levels, executives routinely overcome short-term pressures and allocate capital to projects with long time horizons.

Thus, there must be deeper forces at work. As it turns out, the most powerful conflicts between innovation and ongoing operations are easily overlooked. They are subtle. They lie in the *method* of the Performance Engine. The method is the same, in every company and in every industry. To maximize results, the Performance Engine strives to make every task, every process, and every activity as *repeatable* and *predictable* as possible.

It is hard to understate the power of repeatable and predictable. The more repeatable a business process, the more amenable it is to being broken down into ever-finer subtasks. Specialization of labor has been acknowledged as a powerful expedient to efficiency since the birth of the industrial age more than two centuries ago. Predictability is just as powerful. When past performance can serve as a baseline for future expectations, each individual in an organization can be held accountable for meeting clear and proven standards of performance.

The techniques for managing Performance Engines through the relentless pursuit of repeatability and predictability are well understood. They have been honed and refined for many decades. In fact, the very language of business is the language of Performance Engines. Consider how businesses keep score. Accountants, as a first premise, consider businesses to be ongoing

concerns. This year's activities will be more or less a repeat of last year's, and last year's performance is the best predictor of this year's performance.

Repeatability and predictability work. Modern corporations have mastered the process of building and perfecting Performance Engines. In doing so, they have delivered tremendous gains in efficiency and thus tremendous gains in living standards worldwide.

At the same time, the greatest strength of a Performance Engine—its drive for repeatability and predictability—also establishes its greatest limitations. By definition, innovation is neither repeatable nor predictable. It is exactly the opposite—nonroutine and uncertain. These are the fundamental incompatibilities between innovation and ongoing operations. They strike right at the heart of how leaders are trained, how organizations are designed, and how performance is measured. They make it impossible for the Performance Engine to tackle innovation initiatives outside of continuous process improvements (which are small enough to fit within the slivers of slack time that are always present, even in the most efficient Performance Engines) and repeatable product development efforts (which can follow Performance Engine–like processes).

Break All of the Rules?

The fundamental incompatibilities are daunting. No wonder, then, that innovation leaders so frequently view the Performance Engine as their primary antagonist. No wonder, then, that innovation leaders so frequently believe that you must break all of the rules to succeed. No wonder, then, that so many innovation leaders see themselves as entangled in a heroic long-odds battle against a bureaucratic octopus.

But the break-all-of-the-rules mantra, while understandable and widely shared, is poison. There are at least three reasons.

First, innovation leaders *need* the Performance Engine. Most obviously, it is profits from the Performance Engine that *pay* for innovation. Treat the Performance Engine as your enemy, and you may soon find yourself without funding. In addition, innovation plans almost always call for leveraging one or more assets or capabilities that are managed by the Performance Engine, such as a brand or a sales force.

Second, to managers responsible for ongoing operations, “break all of the rules” sounds a lot like “break the Performance Engine.” Innovation leaders,

take note: antagonizing the Performance Engine is a *really bad idea*. When leaders responsible for the Performance Engine sense danger, they fight. And, because the Performance Engine is bigger and more firmly established, it almost always wins. In the process, innovation dies.

Finally, “break all of the rules” sounds an awful lot like “no rules.” Indeed, innovation leaders often sound as though they think they deserve to be free to pursue their dreams, as in, “We, the Innovators, are a blessed and superior lot. We are, and should be, exempt from your bureaucratic rules and your plebian demands for day-to-day efficiency and accountability.” This, of course, fuels the antagonism. In addition, the attitude is merciless for innovators. Though innovation must be evaluated differently, there is no reason that innovators cannot be every bit as disciplined and accountable as the Performance Engine.

The break-all-of-the-rules mind-set is most appealing to the youngest innovation leaders. They are the ones most likely to view the Performance Engine as a mindless bureaucratic machine that deserves no respect, while casting themselves as the superheroes who can defeat the vast forces arrayed against them by fighting head on. This is nothing more than youthful fantasy at work. It is not a practical approach to making innovation happen.

Mutual Respect

Instead of fighting the Performance Engine, the innovation leader must build a partnership with it. There must be a relationship of mutual respect.

Respect comes more naturally when innovators recognize that an innovation initiative, even a major one, is just an experiment. Innovation may very well signify the future, but the Performance Engine is the proven foundation, and if it crumbles, there is no future.

Also, innovators develop a healthier relationship with the Performance Engine when they recognize that they are not up against some sort of evil anti-change faction. Conflict with the Performance Engine is not rooted in laziness, timidity, complacency, convention, or conservatism.

Quite the contrary, conflict with the Performance Engine derives from the endeavors of good people doing good work. It arises from efforts to achieve the most basic goals of every business—producing, delivering, selling, marketing, servicing, and more—every hour of every day, with speed and efficiency. This may sound routine. But is it? Modern global corporations

perform juggling acts that are just short of miraculous. They smoothly and gracefully coordinate operations scattered across multiple continents. Like a Porsche racing down the autobahn, the Performance Engine is awesome.

Indeed, innovation leaders must honor the Performance Engine. They must be committed to helping the Performance Engine sustain its excellence just as they are committed to their own projects. And, in formulating the recommendations in this book, we have taken, as our first obligation, that we must do no harm to the Performance Engine's existing capabilities.

However, a bit of humility on the part of the Performance Engine is also important. Despite their daunting capabilities, Performance Engines are not all powerful, and they are not immortal. The range of innovations that they can tackle is woefully insufficient. Companies that operate strictly within the bounds of Performance Engine capabilities fail to evolve. Eventually, they die.

Just as innovators need the Performance Engine, the Performance Engine needs innovators. It is a relationship of mutual dependency, one that demands mutual respect.

The Distinct but Disciplined Approach

While “break all of the rules” is toxic as a leadership mantra, there is some truth in the notion. There *are* different rules for innovation.

In fact, one of the most common reasons that established companies struggle to execute innovation initiatives is that they fail to appreciate just how differently they must treat them. The group working on an innovation initiative cannot *just* be a home to a more creative culture. It cannot *only* be a collection of people who like to think outside the box. These are helpful attributes, but they are insufficient. There must also be deep change. Many of the fundamental principles for managing an innovation initiative bear little resemblance to the fundamental principles for managing the Performance Engine: *The innovation team must be distinct from the Performance Engine.*

Critically, however, *distinct* does not mean *undisciplined*. Companies often err when they assume that innovation cannot be managed because there is too much chaos, serendipity, and unpredictability.

While it is true that innovation initiatives are *unpredictable*, especially in the earliest stages, this does not make them *unmanageable*. All too often,

innovation leaders use uncertainty as an excuse to avoid accountability. But innovation should not be about freedom or rebellion or escape from the exacting demands of the Performance Engine. The innovation team must be just as disciplined as the Performance Engine. Companies must adopt a distinct but disciplined approach to innovation.

ABOUT THE AUTHORS

VIJAY GOVINDARAJAN (known as V. G.) and CHRIS TRIMBLE are on the faculty at the Tuck School of Business at Dartmouth. They have dedicated the past ten years to studying a single challenge, one that vexes even the best-managed corporations: how to execute an innovation initiative.

In 2005, they published the international bestseller *Ten Rules for Strategic Innovators—From Idea to Execution*. The *Wall Street Journal* published a Top Ten Recommended Reading list that placed *Ten Rules* alongside well-known titles including *Freakonomics*, *The Tipping Point*, and *Blink*. *Strategy & Business* magazine recognized *Ten Rules* as the best strategy book of the year.

V. G. and Chris have published together in the *Harvard Business Review*, the *MIT Sloan Management Review*, the *California Management Review*, *BusinessWeek*, *Fast Company*, and the *Financial Times*. Their article “Organizational DNA for Strategic Innovation” won the Accenture Award for the best article of the year in the *California Management Review*.

Most recently, V. G. and Chris worked with Jeff Immelt, chairman and CEO of General Electric, to write “How GE Is Disrupting Itself,” the *Harvard Business Review* article that introduced the notion of *reverse innovation*—any innovation that is adopted *first* in the developing world.

V. G. is the Earl C. Daum 1924 Professor of International Business and the founding director of Tuck’s Center for Global Leadership. He was the first professor in residence and chief innovation consultant at General Electric.

V. G. has been named as: Outstanding Faculty (*BusinessWeek*, in its “Guide to the Best B-Schools”), Top Ten Business School Professor in Corporate Executive Education (*BusinessWeek*), “Superstar” Management Thinker from India (*BusinessWeek*), Top Five Most Respected Executive Coach on Strategy (*Forbes*), Top 25 Management Thinker (*The London Times*), and Outstanding Teacher of the Year (MBA students).

V. G. has worked directly with 25 percent of the *Fortune* 500 corporations including Boeing, Coca-Cola, Colgate, Deere, FedEx, Hewlett-Packard, IBM, J.P. Morgan Chase, Johnson & Johnson, New York Times, Procter & Gamble, Sony, and Walmart. He is a regular keynote speaker in CEO forums and major conferences including the World Innovation Forum and BusinessWeek CEO Forum.

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CHRIS's career mixes rigorous academic research with hard-nosed practical experience. His interest in innovation within large organizations developed early in his career, when he was a submarine officer in the U.S. Navy.

Chris has worked with dozens of top corporations, spending much of his time working directly with innovation leaders. He is a frequent speaker on the topic of innovation and has spoken all over the world.

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