



Run Grow Transform

**Integrating Business
and Lean IT**

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**This is a freely
distributable copy
of Chapter One**

Chapter 1

In Pursuit of Growth and Innovation

Steve Bell

Knowledge is an unending adventure at the edge of uncertainty.

Jacob Bronowski

Scientist and author of *The Ascent of Man*

WHAT YOU'LL LEARN IN THIS CHAPTER

- Why Lean IT plays an essential role in the ability of the enterprise to run, grow, and transform
- Why sustained success requires a dynamic balance of operational excellence and innovation
- Why a new approach to governance can help drive innovation and alleviate uncertainty across the IT portfolio
- Why it's more important to be a "learner" than a "knower"

The CIO is sitting in a large and well appointed but empty conference room, a cup of cold coffee beside him as he thumbs through his fifty-page project portfolio. Casually he says to me, "Ten percent of my annual \$1 billion budget—over one hundred million dollars—is waste. It's not adding value to our business or our customers." Then he stops. He leans forward, lowering his voice: "You and I both know it's probably much more than that—I just can't say it openly."

Do the math. If even 10% of the IT annual spend is waste, what is the value of discovering and *permanently* eliminating that waste? And what

about the waste in the rest of the enterprise caused by an ineffective relationship between IT and “the business”? Ten percent? Fifteen? If you could capture that, how would you reinvest the gains?

The game has changed—with cloud computing, social media, mobile computing, big data analysis, software as a service, and more—suddenly we all want IT to drive innovation and growth. And we want it now. But many enterprises are mired in IT waste, complexity, and cost—which saps our energy, our creativity, and our speed. We all know the waste is there, but we are often unable to identify it, let alone do anything about it. We devise elaborate mechanisms to track and control spending yet have difficulty answering seemingly simple questions about what a new IT product or service will cost. How can we make effective investment decisions without such a fundamental understanding?

According to a 2007 survey by the MIT Sloan Center for Information Systems Research, the average for-profit company spent 72% of its IT budget on run-the-business/keep-the-lights-on activities.¹ In 2009 PricewaterhouseCoopers reported this figure at 80%.² However run-the-business spend is calculated, and whatever the figure happens to be within your enterprise, every dollar spent keeping the lights on is one less dollar available to support growth and innovation, an important consideration for any IT organization that aspires to be a catalyst for change.

The Big Shift

How do we shift our thinking and redirect our investment to get more business and customer value from our IT capabilities? It’s a two-step process (Figure 1.1). First, taking the Lean approach to *operational excellence*, we emphasize continuous improvement of speed, quality, cost, and customer satisfaction by aggressively reducing waste, unnecessary variation, and overburden. As operational performance improves, we can shift more effort, investment, and creative energy toward enabling and enhancing business strategy and innovation. This is where the second aspect of Lean comes into play: *product development*.*

* It’s important to note that while Toyota Production System techniques usually attract the most attention, Toyota’s *product development system* has made just as significant a contribution to their sustained success. —Jeffrey Liker³

Lean practices help business and IT stakeholders work together in rapid and continuous cycles of experimentation, improvement, and innovation to reach a balance of three complementary objectives:

1. *Run the business*: Providing consistent quality services and improving price-to-performance ratios while reducing cost and risk
2. *Grow the business*: Improving top-line revenue with existing business models through improvement and innovation of products and services, the processes that deliver them, and the IT services that enable them
3. *Transform the business*: Radical innovation of products and services, the processes that deliver them, the business models that drive them, and the new markets and customers they serve⁴

Run efficiencies free up resources for growth, and growth then funds transformation. But they are interdependent in another, less obvious way as well. You can develop a highly innovative product, but if you can't quickly and effectively produce, deliver, and service it, you have not created value for the customer. Worse yet, a fast follower may come along and take your idea and your customers with it. So growth and transformation require operational excellence for effective commercialization. Although this relationship is obvious in the long run, it is in the day-to-day interdependence of operational activities and product development that most enterprises struggle, and nowhere is that struggle more challenging than with IT.

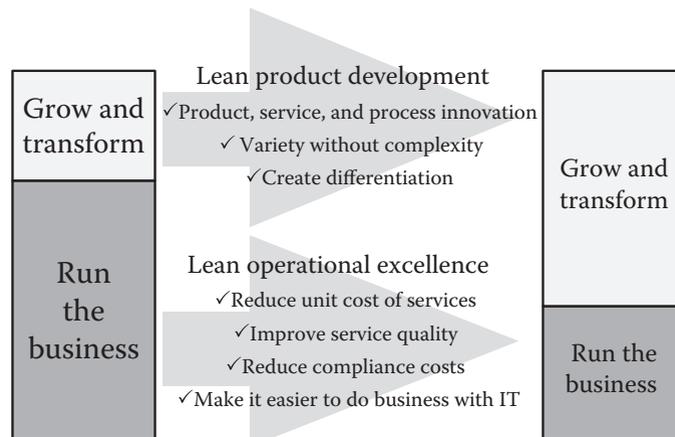


Figure 1.1 The big shift.

A Delicate Balancing Act

Run-the-business/operational activities are generally known—or are at least knowable. They are usually repeatable processes that can be standardized and continuously improved using Lean operational excellence techniques. In contrast, activities that enable enterprise growth and transformation often involve new and unknown situations, where variation and uncertainty produce the spark for innovation. These are the situations that we commonly associate with Lean product development, which includes software development.

However, software application development can also help to improve and automate many run-the-business activities, improving speed and service levels, reducing cost, and freeing capacity. In this way, Lean development and innovation can improve operational activities where occasional unknowns and disruptive events affect the existing standardized work.

Similarly, new products and services must also be designed with awareness for how they will be produced, delivered, and serviced in a standardized way as they are commercialized. Gaining an understanding of this requires input from those involved in run-the-business activities. So while they are subtly different, Lean operations and product/application/service development must cooperate if an enterprise is to grow and transform consistently (Figure 1.2).

Maintaining such a balance isn't easy because of the inherent nature of these two forces: operations and development. In the realm of IT, for example, operations strive for more standardized processes and less variation, while product development *requires* variation, and rapid change is the key to agility. Many software developers now believe in the Lean-Agile approach, which means that small pieces of code should be rapidly designed and deployed to be most responsive to changing customer requirements. But the moment that code is ready for deployment, IT operations often put up roadblocks to rapid change, because in their experience each individual change can cause a harmful service interruption. Fortunately this mindset is beginning to change, as we will explore in Chapter 5.

To make matters even more challenging, traditional IT governance practices tend to resist rapid change, with annual budget controls, and laborious, often bureaucratic portfolio and change management processes. Historically, IT has been both risky and expensive, producing highly inconsistent outcomes, so governance practices often attempt to *control* the uncertainty rather than work with it. Although the intent is to ensure that

	Lean operations	Lean product development
Run	Goal: Operational excellence Uncertainty: <i>low</i>	Goal: Develop new operational capabilities; product design for efficient production, delivery, and serviceability Uncertainty: <i>low to medium</i>
Grow	Goal: Improve flexibility and mass customization and efficiently scale in volume and geographic reach Uncertainty: <i>medium</i>	Goal: Incremental growth and innovation with products and services, processes, customers, and markets Uncertainty: <i>medium to high</i>
Transform	Goal: Fast and efficient commercialization of new ideas Uncertainty: <i>medium to high</i>	Goal: Radically new business models, products and services, processes, customers, and markets Uncertainty: <i>high</i>

Figure 1.2 Balancing Lean operations and development.

investments are made wisely and with appropriate oversight and controls, the result can be a loss of speed and agility accompanied by increased cost and, paradoxically, risk.*

If we are to realize a vision of transforming our companies and our industries with innovative use of IT capabilities, we need to achieve this balance between production and creation. We need a new relationship with risk. And to do that we need to better understand the very nature of uncertainty so that we can work with it rather than simply trying to control it.

Embracing Uncertainty

The CIO of a global energy company recently reflected on the similarities between research and development (R&D) and IT projects. In both, there are many technical complexities, variables, and unknowns, causing uncertain outcomes with each new project. The chief difference, as this particular CIO observed, is that with R&D there is a natural expectation that outcomes are uncertain and that the cost and time to deliver a successful result are unknown. This is the very nature of scientific research.

* “Requiring an ‘accurate’ estimate at the beginning of a project can dramatically increase project risk instead of decrease it as intended.” – Scott Ambler and Per Kroll, IBM⁵

But with IT projects there is usually an expectation for known outcomes along with predetermined budgets and timelines. Through rigorous planning and control, stakeholders try to eliminate uncertainty and the risks associated with each project. But IT development is often an act of learning, not of production, and uncertainty is not only necessary but sought. Companies that successfully drive innovation quickly into the market have learned to embrace and exploit uncertainty as a source of competitive advantage.

Researcher David Snowden has developed a *sense-making framework* that helps us understand degrees of order and uncertainty so that we can take the proper approach to a particular situation. He postulates that there are four situational contexts: simple, complicated, complex, and chaotic.⁶

1. **Simple contexts** are ordered, known, and deterministic, where strict adherence to a formula produces the same result each time (e.g., baking a cake). Such situations should be approached with a standardized best practice. The proper approach is to “sense, *categorize*, and respond”—to strive to categorize the situation into a known solution to be implemented.
2. **Complicated contexts** are ordered, knowable, and deterministic; there are “known unknowns” (e.g., sending a rocket to the moon). Because there is one best solution to be found among the many variables and potential solutions, this is typically the domain of experts and expert knowledge, but experts have their blind spots too. A single “best practice” is inappropriate here, but there should be a set of “good practices” that may be drawn upon to configure the proper solution. The proper approach is to “sense, *analyze*, and respond”—to explore the situation in a scientific manner to understand the cause-and-effect relationships before prescribing a solution and then experimenting to ensure that the solution produces the desired effect.
3. **Complex contexts** are *unordered* (not *disordered*, for there is an order of a higher degree) and dynamic (e.g., raising a child). Organic and human systems, including business organizations, are often complex; expertise is necessary but insufficient because systems are adaptive and respond to change in various ways, so rational assumptions do not always apply. With complex systems, patterns are emergent; we usually understand cause and effect only in retrospect, but using a past

example as a prescriptive model for responding to future change events is not appropriate because the system is not deterministic. Attempting to control a complex situation robs participants of the opportunity to learn new patterns. The proper approach is to “*probe, sense, and respond*”—to experiment, testing the behavior of the system to understand cause and effect and to determine the appropriate response. But the system is also dynamic, so what addresses the situation today may not work tomorrow; therefore, continuous monitoring is required to sustain performance.

4. ***Chaotic contexts*** are unknowable. No patterns exist—only turbulence. There are no right answers and many decisions to be made, often in situations of high stress (e.g., assisting at a multi-car accident scene). The proper approach here is to stabilize the situation, taking immediate controlling action to establish some sense of order: “*act, sense, respond.*” There is a risk, however, that leadership may remain in the crisis command-and-control mode too long before shifting to complex domain behaviors of experimentation and learning.

What can we learn from this model of sense-making and response given our goal to simultaneously manage risk and achieve operational excellence while helping the business to grow and transform? Lean practitioners have learned that they must adapt their responses to the nature of each situation.

Simple and complicated situations are deterministic; as long as you follow the rules, the outcomes are predictable. This is the domain of many operational excellence efforts: taking a known or knowable process and standardizing it so that it is performed consistently and efficiently, with the understanding that the standardized work will continue to be improved.

But the most challenging endeavors, those that are transformational and often deliver the most value, also involve the most uncertainty and risk. These endeavors are, by this definition, complex, and they are often found to be in a chaotic state. First teams must stabilize them, so they can then be improved.

The skillful, innovative Lean enterprise learns to manage a portfolio of activities consisting of various degrees of uncertainty, always testing the boundaries for new discoveries, while continuously standardizing what is knowable. Thus, Lean thinking helps us to take on more unknowns and drive more discovery and innovation while producing better outcomes—faster and with less risk.

Improving the Value of What Is *Known*

When a team sets out to improve the operational efficiency and quality of repeatable activities, it often encounters a process that is not well understood, where every participant performs a task his/her own way, and there are no consistent measurements.

Because you cannot continuously improve random behavior, the first thing the team must do is *stabilize* the process. It does this by assessing the current state and determining the *one best way the team members can all agree on at the present time* to perform each step; in Lean terms this is called *standardized work*, which establishes a baseline of consistency to build upon. It's important to note that the manager is not telling the team what to do; the team figures out together how to best perform the work and then holds each other accountable for that behavior.

Once the process has been stabilized and standardized and the team establishes baseline measurements and visual management, it has a foundation upon which to continuously improve. The team then quickly finds and fixes problems, testing new ideas (hypotheses) one at a time by using the plan-do-check-act (PDCA) scientific problem-solving method. So the standardized work keeps improving over time, but at any point in time it represents the one best way the team can all agree on to do the work—ensuring consistency and a baseline for further improvement.

Thus, an IT organization can establish and sustain excellence in many operational activities, removing waste and freeing up capacity to be reinvested in growth and transformation. Note that even in a stable operations environment where so much is often already known and documented, each sudden variation is a new unknown, a reason to conduct another experiment to better understand the process. Occasionally there will be a disruptive event, like the adoption of cloud computing or another radically new technology, or an unexpected merger or acquisition in which multiple data centers must be consolidated on short notice. Such events initiate a need to experiment to discover the new, best approach.

The key ingredient for continuous improvement is a *team* with a sense of ownership and shared purpose and dedication to making things a little better each day. Lean thinking brings several paradoxes and counterintuitive notions to the table, and here is one of them: some on this team may initially fear that standardized work removes creativity and judgment, making the work mundane and uninteresting. This misunderstanding often causes resistance. Peter Senge once said, “People don't resist change. They resist

being changed.” When we help teams take ownership for the way they do the work, the way they measure the work, and for their outcomes, they respond with a sense of pride and a *desire to change* for the better. When a team eliminates the waste, the randomness, and the daily firefighting and frustration, this frees up time and energy and creates a space for creativity and innovation to flourish.

Improving the Path to Value in What Is *Not Known*

Growth and transformation investments are often new in every sense of the word: new products, markets, processes, and customers—even new business models. And with new initiatives come uncertainty, variation, and risk. Lean thinking helps in this domain too, but the approach is subtly different.

Consider one of the fundamental principles of Lean operations: *quality at the source*. Do it right the first time. Avoid errors, defects, and the rework, damage, and customer dissatisfaction they create. But in a development setting, paradoxically, we succeed when we fail faster and earlier; this emphasis on early failure in conditions of uncertainty significantly *reduces* risk, because we learn faster, in smaller increments, and thus avoid costly mistakes later. This approach is sometimes called “worst first,” intentionally tackling the most challenging variables early in the learning process.

According to Don Reinertsen in *Managing the Design Factory*, “The fallacy in thinking that high first-pass success optimizes the design process lies in underestimating the important information generation that occurs with failure. . . . if we succeed at doing things right the first time we will have driven all information generation out of our design process.”⁷

Innovation and transformation are an entrepreneurial journey, and there is much that even large, legacy enterprises can learn about how startups manage risk. “At its heart, a startup is a catalyst that transforms ideas into products,” suggests Eric Ries in *The Lean Startup*. “As customers interact with those products, they generate feedback and data. That information is much more important than dollars, awards, or mentions in the press, because it can influence and reshape the next set of ideas.”⁸ So herein lies a great paradox of Lean development—we *reduce risk* by confronting uncertainty, early and often, through experimentation.

In this way, Lean thinking provides a safety net, helping teams to stretch, learn, and grow with less risk. Hypotheses and experiments are well thought out, discussed among peers, across disciplines, and with existing

and potential customers. Lean thinking encourages testing the unknowns in small, bite-sized chunks. Smaller-scoped experimentation fuels continuous learning, which results in better products and better services, enabling the enterprise to respond more quickly to a dynamic marketplace.

What's Wrong with "Implementation Thinking"?

Some who encounter Lean thinking for the first time consider it to be a deterministic approach, mitigating risk through rigid practices. After all, it was first developed in a manufacturing environment and emphasizes standardized work, which to many suggests "Taylorism"*—with visions of men with stopwatches and clipboards treating human beings as machines. Yes, Lean helps an enterprise to identify good practices, but the standard created is temporary—until the next experiment where the team discovers a better way to accomplish the objective. For years, Mike Rother has studied the culture and behavior of organizations that thrive through continuous and collaborative learning by experimentation.† He cautions against the notion of certainty:

Having an implementation orientation actually impedes our organization's progress and the development of people's capabilities. The way from where we are to where we want to be next is a gray zone full of unforeseeable obstacles, problems and issues that we can only discover along the way.

The best we can do is to know the approach, the *means*, we can utilize for dealing with the unclear path to a new desired condition not what the content and steps of our actions—the solutions—will be. If someone claims certainty about the steps that will be implemented to reach the desired destination, that should be a red flag to us.‡

Implementation is a word that is deeply ingrained in the culture and behavior of the IT organization, and in the way it manages projects. This is

* After Frederick Taylor (1856–1915), the industrial engineer who pioneered experiments in efficiency.

† Mike Rother and John Shook, authors of the popular *Learning to See* (Cambridge, MA: Lean Enterprise Institute, 2003), which introduced the practice of value stream mapping, both stress that a focus on the Lean tools and techniques themselves tends to distract people from the essential principles of collaborative problem solving and learning through PDCA experimentation.

often a natural blind spot for IT professionals because IT product development is often held to a false—or at least premature—certainty regarding scope, time, and cost of projects by the prevailing mental model of governance, project and program management, and financial control.

Consider the disappointing history of IT project failure. Early in every project there is a natural period of uncertainty, often called the *fuzzy front end* where strategic goals are transformed into tactical project objectives. While the natural progression of a project lifecycle leads to increasing certainty as the time of completion nears, it is during the fuzzy front end, when teams explore and experiment with uncertainty, that valuable insights and innovative ideas often appear. Yet there is a natural human tendency to try to push through this uncomfortable phase too quickly, arriving at a sense of premature confidence and certainty that too often leads to disappointment.

Peter Senge emphasizes this counterproductive leadership bias in *The Fifth Discipline*: “Deep within the mental models of managers in many organizations is the belief that managers must know what’s going on. It is simply unacceptable for managers to act as though they do not know what is causing a problem. Those that reach senior positions are masters at appearing to know what is going on, and those intent on reaching such positions learn early on to develop an air of confident knowledge.”¹⁰

Through years of guiding transformations, and during the development of a transformational leadership curriculum, the Lean Enterprise Institute has proven that authentic and lasting transformation requires leaders who *emphasize learning rather than knowing*. A Lean leader is comfortable saying, “I don’t know, let’s figure this out together.”

By accepting uncertainty as an ally and chunking up projects into smaller and more rapid increments, the quality of decision making and outcomes improve, and the frequency and severity of project disappointments decrease. As a team moves *in the general direction of a vision*, they learn and adjust, step by step. At the conclusion of each small step there is a reflection on what has been learned, and the team then agrees on the next step toward the vision. By taking this step-by-step approach, the team ends up in a far better place than if it had rushed headlong according to a plan. However, the absence of a deterministic plan makes many people uncomfortable, especially when a significant investment is at stake.

Rother compares this incremental approach to finding your way through a dark room. You know generally where you are trying to go: the approximate location of a doorway across the room. But what obstacles lie in your path? The only safe way to proceed is one step at a time, learning from each

step and planning the next. This is the essence of the scientific journey: when you suddenly bump into something solid, you pause, correct your course, and try again. But if you simply march confidently into uncertainty with a preordained and highly detailed plan, you're likely to suffer bruises (or worse) and end up frustrated. This, Rother points out, is the consequence of our infatuation with lists: project plans, action lists, checklists, and so on, which often lead us confidently astray. While giving us the sense of certainty and control, an overly prescriptive checklist (e.g., work breakdown structure, project budget) can make us unaccountable to actual results. By saying, "I did all the tasks assigned to me on schedule," it absolves each individual and team from watching the situation carefully, adapting to new discoveries at each step. This is how team members can report "all green lights" and "good progress" right until the moment the project fails.

Rother insists that the checklist approach is "an unscientific and ineffective method for process improvement. It is in actuality a scattershot approach: multiple action items are initiated in the hope of hitting something."¹¹ The checklist approach causes more variation and instability he concludes—not less. On top of that, it creates a false sense of certainty which means that expectations will hurt more when they are finally trampled upon. And perhaps most importantly, "implementation thinking" doesn't develop people's capacity for disciplined problem solving, which is the key to sustained competitive advantage.

It is clearly counterproductive to attempt to force certainty into a complex project because it works against the emergent forces of discovery, creativity, and innovation. By working with the uncertainty that naturally exists in the situation, teams may arrive at innovative products and solutions that create real value. This leads us in a direction that many would consider "inefficient" from the traditional project management perspective but results in faster and more effective discovery and commercialization of new ideas.

Consider *set-based development* (also called *forced innovation*)—designing multiple prototypes and simultaneously experimenting with different approaches and different levels of sophistication and difficulty with the results of each prototype informing the subsequent working design. If the advanced designs prove effective, they can lead to rapid innovation and radical new production introduction; if they do not mature in time for the current schedule, they accelerate the next cycle of development. But this approach involves greater investment and apparent duplication of effort and creates more failures (valuable learning experiences), which is discouraged by traditional efficiency thinking.

WHAT ARE THE VITAL FEW THINGS WE NEED TO KNOW?

At 3:24 PM on January 15, 2009, US Airways flight 1549 rolled down the runway at New York City's LaGuardia airport with 150 passengers on board. During the initial ascent, the jet struck a flock of Canadian Geese and instantly lost power in both engines. Three minutes later, the aircraft was floating in the Hudson River and all passengers were safely rescued. How did Captain "Sully" Sullenberger and his crew perform this remarkable feat? They had a checklist and the training and practice to know how to use it in a sudden and dire emergency. Clearly, checklists aren't inherently a problem; it's knowing how and when to use them properly that matters.

In *The Checklist Manifesto*, Harvard professor and surgeon Dr. Atul Gawande explores lessons learned from decades of airline safety procedures, hoping to learn how they may be applied in the field of Lean healthcare. He learned that in every cockpit is a folder of checklists that the crew uses for both routine and emergency situations. There is so much complexity in a modern aircraft that even the most seasoned pilot, especially in an emergency, can't be relied upon to remember every vital detail.

What struck Dr. Gawande was how short these checklists are. They don't contain every step the pilots need to perform a procedure. That would create an overly large list that would be counterproductive during an emergency. Anyway, he realized, you can't create a checklist that would handle every possible variable that arises in a real-life situation. These checklists, Dr. Gawande noted, only contain those vital few steps that are essential in avoiding catastrophic failure—lists of known issues that must be done right the first time. The rest is up to the skill and experience of the crew whose hands are on the controls, managing uncertainty second by second.

The checklist that Dr. Gawande teaches is what Lean practitioners call standardized work, which is how a team documents what is *known* so they can quickly spot exceptions and deal with unknowns—the sudden problems that inevitably occur in real life—such as a flock of geese. But when the process is entirely new, complex, or chaotic, there is no standardized work, no checklist—there is only past experience, fresh ideas, and hypotheses to experiment upon. In that case, what is known and what can be relied upon is the scientific experimentation process itself: PDCA.

The Fast-Follower Path of Innovation

Running the enterprise well—correction, not just well, but *very well*—can create its own path to market leadership by exploiting innovation. First does not always mean most successful, profitable, or sustainable. Sometimes *fast followers* become the market leaders. But fast followers need effective business processes to exploit someone else's idea.

Apple did not create the first MP3 player. The first two MP3 players, created by small technology companies in the late '90s, were minimally functional and lacked a legal way to download music. Compaq (later bought by Hewlett-Packard) followed quickly into this new market, significantly upgrading the technical capability, but they didn't invest in putting the whole value package together. Apple then took its bite of the market with the iPod. Elliot van Buskirk, technology editor for MP3.com, had this to say: "It wouldn't be too much of a stretch to assert that the entity now known as HP beat Apple in the race to make a high-capacity portable music player by three years—an eternity in the world of MP3 players—and still somehow lost."¹²

"At least half the cumulative operating profit for a new product will be generated in the first eighteen months after introduction," state the authors of *Fast Innovation*, "then commoditization will reduce margins during the remaining five to ten years of life and provide the other half of cumulative operating profits." Clearly, there is a reward for being first to market: introducing a disruptive innovation.* However, being able to take someone else's innovation and quickly introduce and differentiate your own offering can also pay dividends. "Sometimes a rapid follower can capture most of the profit, usually because the first mover *lacks strong operational execution or a lack of process innovation*"¹³ [emphasis added].

To capture the top spot as a fast follower, you have to turn a better version of the innovation out *fast*—and deliver it better than anyone else. And the longer you lag, the greater the differentiating value must be. Research shows that *slow* followers will likely never recapture their investment in a new product; the bulk of the new profits are already taken in the first eighteen months. "In short, from an innovation standpoint," assert the authors,

* In *The Innovator's Dilemma* (Cambridge, MA: Harvard University Press, 1997), Clayton Christensen introduced the term *disruptive innovation*, something new that radically transforms the status quo, which may include the company's own current product offerings. This is contrasted with *sustaining innovation*, which is an incremental improvement on an existing product, service, business model, or market.

“better never than late!”¹⁴ (Apple followed by three years with the iPod; more on that later.)

An innovation strategy requires funding an acceptable degree of risk with the introduction of new products, services, customers, and markets while maintaining operationally excellent processes to commercialize (produce, deliver, and service) them. If the governance model and decision-making framework isn't tuned to accepting this hybrid approach to uncertainty at the outset, if it insists on hard dollar/scope/time assertions at the beginning of every initiative, then you will most likely find a constant tension that tends to throw up roadblocks to growth through innovation.

From Innovation to Transformation

I recall a conversation with my travel agent at a cocktail party in 1996. She couldn't imagine people would someday not need her services or that she should begin planning for a new career. (By the way, I've since learned that discussing another's probable career obsolescence doesn't make for good cocktail party conversation!) But today we're not at all surprised when a new technology suddenly changes our lives. There are now legions of very bright and highly competitive people in every industry who are deliberately looking for ways to disrupt the status quo for fun and profit. They're smart; they're experienced; and, quite often, they're well funded. Many of them work in Web 2.0 companies with technology savvy baked into the company's genes. But many work in older companies—"intrapreneurs" who are eager to be disruptive and transformative in their own backyards.

Are any of these people working for you? To quote Will Rogers, "Even if you're on the right track, you'll get run over if you just sit there." Disruptive innovation results from taking a radical, unproven idea and monetizing it. This introduces the highest degree of uncertainty. In fact, that is the whole point! And that often means intentionally creating disruption within your own comfort zone, with your own products and customers. Get used to it. Make it happen. Remove the barriers that resist it. But don't rush blindly into risk; do it wisely. Fail early, fail fast, fail often.

If you don't deliberately invest in innovation, it's not going to happen. And if you do invest in pioneering new ventures, you can't treat these investments using the old model of IT change management and governance. It's just not going to work.

Nor is it going to work without fully integrated IT capabilities. We live in an age where skillful application of IT is an essential component of the value proposition for every enterprise because:

- IT capabilities are integrated within virtually every product and service we deliver to our customers.
- IT competency enables us to develop for, deliver to, and service our customers better, faster, and at a lower cost through continuously improving and adapting *business* processes.
- IT savvy helps us listen more carefully to the voice and behavior of our customers through many diverse channels such as big data analysis and social media listening.

The Virtuous Cycle of Innovation

When an enterprise pursues growth and transformation, it is signing up for a continual dance with uncertainty, which requires repeated experimentation (and failure) in order to achieve sustained success. How does it fund the effort? By focusing on operational excellence to drive waste out of the routine run-the-business operations; this frees up capacity: people, money, and other resources for growth, which in turn drive additional profits to fund the transformation, which in turn requires operational excellence to commercialize and monetize—a virtuous cycle (Figure 1.3).

The challenge is that all three forces of change are interdependent; they play out simultaneously, yet differently, within each *value stream* (all the activities involved in delivering value to the customer; we'll explore value streams in depth in Chapter 2). Each value stream must therefore find the right dynamic balance of its portfolio of run, grow, and transform efforts according to the maturity of its product lifecycle and the needs of its customers. One-size-fits-all, top-down management and governance doesn't work here. Each team must have a clear purpose and a vision for the future. This calls for a new style of management and leadership.

Now back to Apple and the iPod. Why did they succeed when the initial developers, and even Compaq/Hewlett-Packard, did not? Apple was neither the first to market nor especially fast to follow. And when they did follow, their technology wasn't that much better than their competitors.

So why did they *wildly* succeed?

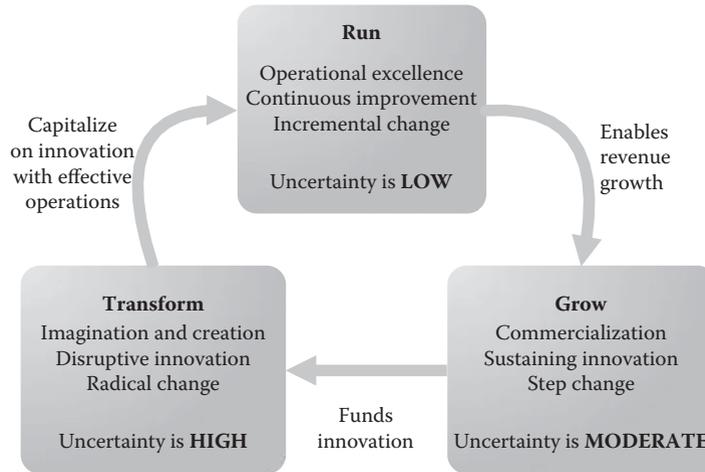


Figure 1.3 The self-sustaining cycle of uncertainty.

Apple delivered—and delivered in a *big* way—customer value. What good is a high-density portable music player *if there’s no music to play?*

Apple swallowed the market. In this bold combination of innovation and commercialization, Apple delivered a *complete* product. They not only transformed the value of the personal music player and created a new business model, they also disrupted the music industry.

Once in a while a company such as Apple, Toyota, or Southwest Airlines comes along—one that seems to have an innate sense of shared purpose, teamwork, and a truly remarkable culture. We can’t simply copy these companies. It’s foolish to try. Each of us must find our own path, making a sincere and deliberate effort to invest in our own transformation—of our products, processes, business models, industries, IT capabilities, and our culture.

It all begins with teams of people with a clear sense of shared purpose—serving the customer and providing exceptional value. It begins when teams start asking the seemingly simple questions: *Who are our customers? What do they value? And how do we create that and deliver it to them?*

And with these questions, the Lean journey begins.

Notes

1. MIT Sloan CISR survey of 1,508 IT leaders conducted in 2007.
2. PricewaterhouseCoopers, *The Real Promise of Cloud Computing*, Technology Forecast, Summer (London: PricewaterhouseCoopers, 2009), 8.

3. Jeffrey Liker, interview, May 29, 2011.
4. R. Hunter et al., "A Simple Framework to Translate IT Benefits into Business Value Impact," Gartner Research, May 16, 2008.
5. Scott Ambler and Per Kroll, "Best Practices for Lean Development Governance, Part I: Principles and Organization," IBM developerWorks, June 15, 2007.
6. David J. Snowden and Mary E. Boone, "A Leader's Framework for Decision Making," *Harvard Business Review*, November 2007.
7. Don Reinertsen, *Managing the Design Factory* (New York: Simon & Schuster, 1997), 79.
8. Eric Ries, *The Lean Startup* (New York: Crown Business, 2011), 75.
9. Mike Rother, *Toyota Kata* (New York: McGraw-Hill, 2010), 7.
10. Peter Senge, *The Fifth Discipline* (New York: Doubleday, 1990), 234.
11. Mike Rother, *Toyota Kata* (New York: McGraw-Hill, 2010), 30.
12. Eliot Van Buskirk, "Introducing the World's First MP3 Player," *CNet Reviews*, January 21, 2005.
13. Michael L. George, James Works, and Kimberly Watson-Hemphill, *Fast Innovation* (New York: McGraw-Hill, 2005), 22.
14. *Ibid.*, 18–22.