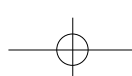
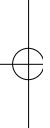
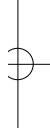


# LEADING INNOVATION

HOW TO JUMP START  
YOUR ORGANIZATION'S  
GROWTH ENGINE

JEFF DEGRAFF & SHAWN E. QUINN



**The McGraw-Hill Companies**

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**CHAPTER  
I**

# The Innovation Genome

**T**HE BOOM YEARS of the late 1990s have faded, the quick money deals have come and gone, and the disruptive technologies have disrupted us all. But the markets and shareholders remain demanding and influential. Productivity is no longer enough; companies must grow—whether it be in size, revenue, profit, or geographic locations.

An organization can grow in two ways. The first way is through acquisition—buying another company or product, or hiring away a competitor’s best people. This is called *inorganic* growth because it is quick and requires little immediate nurturing to produce value. The problem with inorganic growth is that it isn’t very sustainable or resilient. Think about all the mergers you’ve seen that have gone wrong.

Companies can also grow organically. This type of growth is fueled by innovation, which makes an organization better and new. To create organic growth, leaders need to understand how to build sustainable and resilient capabilities and culture, which in turn make innovation happen.

## The Case for Innovation Everywhere, Every Day

Although there are only two ways for a company to grow, there are countless reasons why companies need to grow. The following scenarios are typical of the business challenges we see in our practice.

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### **Case One: Barbarians at the Gate**

A well-known life insurance company has been in business for over 100 years. It has solid earnings, good market share, and, most importantly, the trust of its policyholders. Its leaders have traditionally come up through the firm, so they understand what's required to run a reputable business. Recently, however, a law was passed that allowed large financial services conglomerates to start selling insurance at deep discount rates. Now this life insurance company needs to reinvent itself quickly at the grassroots level where policies are won and lost by the reputation and service provided by its agents. *This organization needs to make innovation happen now.*

### **Case Two: Grow or Die**

A small software firm was started a few years ago by two entrepreneurial programmers who left a large company to develop their own ingenious product, which allows any desktop computer to communicate with any type of electronic device with a chip anywhere on the planet. Originally, the firm had seven people working in an old studio loft, but its initial product launch has been so successful that it has not been able to keep up with demand, even by doubling its staff size every six weeks. Recently, three of its top programmers were hired away at twice their salary by a large firm that intends to quickly develop a competing product, which it can make and distribute easily. *This organization needs to make innovation happen now.*

### **Case Three: The Good Samaritan in Need**

A well-respected community-funded organization in a midsized Midwestern city provides food for people needing interim support. The large manufacturing company that employed a sizable segment of the population in that city and provided much of the support for the nonprofit organization has relocated. The city's unemployment has skyrocketed, and the tax base for funding has dwindled. The need for food for out-of-work families continues to rise. Federal, state, and local governments can't provide more funding in this time of need. This nonprofit organization can continue to operate the way it has been, but that will mean that it must turn away people in need. Or the organization can find

other sources of support and operate in a different way in order to fill the demand for its services. *This organization needs to make innovation happen now.*

### **Case Four: Getting Better Every Day Every Way**

A firm has been making brakes for three of the major automobile companies for over 75 years. It makes the best product in the business, but it is slightly more expensive than the other two major suppliers of brakes, and slightly slower than its competitors in introducing products to complement new car designs. One of the major automobile companies has notified this firm that it needs to reduce its costs by 5 percent each year, starting next year, and that its new products must be ready to ship at least six months earlier or it will lose the automaker's business. The firm knows that the other two automobile manufacturers will follow suit with demands for better pricing and speed. *This organization needs to make innovation happen now.*

Every day situations such as those above are taking place in businesses around the world—real people in real-world companies facing challenges that call for innovative solutions. The companies might be Fortune 500 concerns or start-ups just breaking into the industry. Regardless of the size or complexities of the organizations, these companies all have one thing in common: they need innovation to help them thrive in today's competitive world.

### **“And the survey says . . .”**

Business leaders understand how innovation affects success. Surveys show that executives see change and innovation as necessary for organizational survival and growth. The annual Global Survey of Business Executives,<sup>1</sup> conducted by the consulting firm McKinsey and Company, gathered responses regarding risk and reward from over 9,000 executives worldwide. According to the latest survey released in spring 2005, the executives cited *ability to innovate* as the most important capability for business growth. In the same survey, the executives also cited *innovate in current products* and *develop new products* as the number one and number two most important actions companies will need to take to see their businesses grow in the coming years.

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Don't be fooled into thinking that innovation is only for those in marketing or product development, because the truth is that innovation is everyone's job. Leading innovation goes beyond designing better products and services, or packaging or developing new delivery systems. If you have a stake in helping your company grow, you need to understand where innovation comes from and how to harness its power. Innovation cuts across company lines, affecting nearly every department or function. For this reason, leading innovation is vital for every employee to master—from the CEO to the department manager to the frontline worker. Although most business leaders acknowledge the need for innovation, they often are unsure of exactly what innovation is.

### How to Know Innovation When You See It

What does innovation look like? That is, how do we know innovation when we see it? A quick look around reveals that innovation has many forms, including a better or new product, such as a car; a combination of products, such as a hybrid cell phone; a fashion, such as a designer dress; a business model, such as a short-distance airline; a marketing campaign, such as one for a mature product that makes it seem new; a service, such as a bank that offers customized products and services; an attribute, such as orange juice that helps clean your arteries; and a package, such as a paint can that never spills.

What do these forms of innovation have in common? *Nothing!* The type of design that makes for an aesthetically pleasing dress is quite different from that of a more efficient travel route for a low-cost airline. In addition, increasingly, innovation isn't restricted to any one type; it's often a combination of forms, which, when put together, produce hybrid solutions. So, in order to recognize innovation, we will have to expand our definition to include all its various forms.

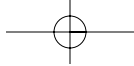
There are hundreds of competing definitions of innovation. Most of these are narrowly focused and somewhat restrictive because they associate innovativeness with a particular element or attribute. Words such as "technological" or "breakthrough" are common examples. But, as demonstrated above, innovation has a much wider role and application in the organization and therefore needs a more operational definition to identify how it works in practice.

The late Marshall McLuhan,<sup>2</sup> University of Toronto professor and cultural guru, suggested a functional definition for innovation that is easily recognizable by anyone in an organization:

Innovation . . .

- *Enhances something.* For example, Google enhanced searching the Internet by making the user interface simple and the behind-the-scenes search process more powerful. These enhancements consistently drew people away from Yahoo, Lycos, and other popular established search engines.
- *Eliminates or destroys something.* For example, in the 1980s, if you wanted to trade stocks, you called your broker, who in turn gave the information to a back-office computer system operator who executed the trade. Charles Schwab gave the client direct access to trading online. This cut out the need for a broker and changed the dynamics and pricing of an entire industry. Charles Schwab eliminated much of the need for a traditional brokerage house.
- *Returns us to something in our past.* For example, Amazon has one of the world's largest collections of books for purchase online at very competitive prices; yet people continue to shop at Barnes and Noble stores with all the limitations of a physical space. They browse books like they did as kids in the local library. They drink coffee like they did as college students in the local coffee shops. They sit in nice leather chairs and socialize like their parents did at any number of "neighborhood" establishments. The experience of Barnes and Noble reconnects the customers to their past.
- *Over time things become their opposite.* For example, e-mail was first introduced as a time-saving technology. It was going to make all our lives more efficient. Over time, more people began to use and abuse e-mail to the point that it now often confounds our workday and impedes our ability to be productive.

In addition to these functions, innovation has attributes and characteristics. For example, all types of innovation employ some form of useful novelty aimed at making things better or new. That is, useful innovation is intended to create some form of tangible or intangible value. An innovation is always specific to the situation and time in which it was given



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rise. Innovation has a transformative quality because it will both replace existing products and services, as well as replace ways of doing things, and, in turn it will be replaced by a subsequent innovation. Therefore, innovation is always involved in an endless cycle of emerging and dissolving.

### How Creativity and Change Drive Innovation

Innovation is closely aligned with two other forms of transformation—creativity and change. Since these terms are often used interchangeably, it's useful to distinguish between them.

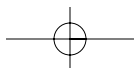
*Creativity* is the purposeful activity, or set of activities, that produces valuable products, services, processes, or ideas that are better and new. *Change* is the altered state of an individual or organization produced by both purposeful and unintentional transformational forces. *Innovation* is the intentional development of products, services, processes, or expressions, such as design and fashion, which results from organizational and individual creativity, as well as intentional and unintentional discovery.

To understand how these concepts work together, think about how an engine operates. Creativity is the fire that ignites the fuel. Change is the heat that the combustion produces. Innovation is the engine turning the heat into power and moving the vehicle up the road toward a specific destination.

### Cracking the Innovation Genome

A *genome* is the ultimate map in that it contains the totality of an organism's genetic material called DNA. At its inception, a genome contains all the information it needs to grow into a mature organism. This map exists in every cell of the organism and provides specific instructions for each cell to integrate with other cells. It is both whole and complete in all its forms, and yet part of a larger system.

The term *Innovation Genome* is used here to describe how the entire system of organizational innovation functions at all levels: the individual, the organization, and the larger strategic environment where value is recognized by markets and consumers. One of the key pieces of the Innovation Genome is a map, which shows four different approaches to innovation. Once you understand how to read this map, you can unlock



the hidden dynamics that determine how innovation works in everything from leadership behavior to macroeconomics.

## A Brief History of How the Innovation Genome Was Discovered

The *Innovation Genome* is the result of over 20 years of applied research beginning with studies of organizational effectiveness and gradually relating them to studies of value creation and organizational creativity. (See Table 1.1 for a summary.)

In the mid-1970s, Professors Robert Quinn and John Rohrbaugh at the State University of New York—Albany's Rockefeller College of Public Affairs and Policy were conducting research to identify what leadership behaviors lead to high-performing managerial decision making. From their research, Quinn and Rohrbaugh discovered two major dimensions of underlying organizational effectiveness.<sup>3</sup>

The first dimension, *organizational focus*, produces a positive form of tension between the *internal emphasis* on the welfare and development of the organization's people and the *external focus* on the organization's ability to succeed in the competitive marketplace.

The second dimension, *organizational preference for structure*, produces a positive form of tension between the *stability and control* to maintain harmony within the organization and *flexibility and change* so that the organization can adapt to shifting external market conditions. Quinn and Rohrbaugh's research on these dimensions led them to create a model known as the Competing Values Framework, or CVF, because it showed the relationship of these positive tensions.

Since its inception, the CVF has been used by thousands of corporations, not-for-profit organizations, and government agencies around the world to transform company processes. It's helped companies of all sizes and types because, in part, the CVF is adaptable to just about any business operation.

By the mid-1980s Quinn had partnered with Kim Cameron at the University of Michigan Business School on a comprehensive research project to determine how these four leadership profiles supported or hindered high-performing organizational culture and competency development. In the mid-1990s, Quinn and Cameron were joined by Anjan Thakor and Jeff DeGraff, also of the University of Michigan Business School, to develop a unified theory of value creation, which they called *Wholomics*.<sup>4</sup>

**Table 1.1 Summary of the History of the Innovation Genome**

| <b>Evolution of the Innovation Genome</b> | <b>Researchers</b>                  | <b>Timeline</b>       | <b>Activities and Results</b>   |
|---|-------------------------------------|-----------------------|---|
| Competing Values Framework                | Quinn and Rohrbaugh                 | 1970s and early 1980s | Studies conducted to identify the leadership behaviors that lead to high-performing managerial decision making  |
|   | Quinn and Cameron                   | Mid-1980s             | CVF research evolved into a project to determine how the model's four leadership profiles supported or hindered high-performing organizational culture and competency development                                 |
| Wholomics evolves from CVF                | Quinn, Cameron, Thakor, and DeGraff | Mid-1990s             | Multiyear study of Fortune 2000 companies based on CVF principles to determine predictability of financial market-to-book variances that drive stock prices, which resulted in a unified theory of value creation |
| CVF and creativity                        | DeGraff and Lawrence                | 2001                  | Further organizational analysis extended the CVF to the subject of organizational creativity that produces value for companies  |
| Innovation Genome evolves from CVF        | DeGraff and Quinn (Shawn)           | 2005                  | Based on the practice of applying the CVF to organizational creativity, the Innovation Genome emerges as a model for leading innovation and growth  |

In 2001, DeGraff and Katherine Lawrence extended the CVF to the subject of organizational creativity that produces value.<sup>5</sup> In analyzing hundreds of cases containing a wide array of approaches to creativity, they observed the emergence of *secondary dynamics* of organizational creativity: The *speed* (how fast) and *magnitude* (how much) of the creative practices largely determine which quadrants produce successful results in specific situations and which do not. The book *Creativity at Work*, which was written by DeGraff and Lawrence, provides an in-depth analysis of their research.

Since 2001, Jeff DeGraff and Shawn Quinn have taken the CVF one step further and developed it as a model for understanding the different types of innovation that exist in organizations. When using the CVF as a model for innovation, they refer to it as the “Innovation Genome.”

## How the Innovation Genome Works

The Innovation Genome is represented as a four-quadrant model as shown in Figure 1.1. Each quadrant represents characteristics and practices that produce different forms of value. These quadrants operate essentially the same way for individuals, organizations and markets. The strengths, weaknesses, and interactions of these four quadrants determine an organization’s ability to produce specific forms of innovation in specific situations.

The categories that comprise the quadrants are: Collaborate, Create, Compete, and Control. These quadrants are recognizable by the key measures, workplace environments, organizational practices, and leadership behaviors that are typically associated with each of the four types as best practices. There also are certain tools associated with these quadrants, which are part of a company’s “innovation playbook.”

It’s useful to think of these quadrants as being right-handed or left-handed, because most individuals use both hands but usually have a stronger, more dominant side. In the same way, organizations possess characteristics from all quadrants but are stronger in one more than the others. Sometimes, quadrants are oppositional in nature; that is, when we use one type of innovation practice, we destroy or weaken another type of innovation. For example, a firm may opt to focus on high-risk breakthrough experiments that focus on growth, at the expense of innovation of low-risk incremental processes that lead to greater efficiency. In general, the most effective organizations have some proficiency in all.

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### Competing Values Framework

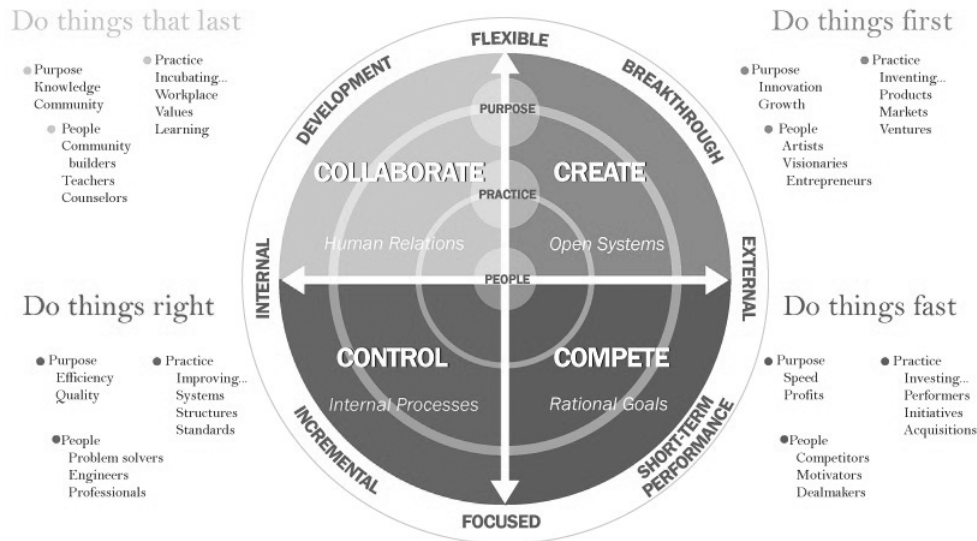


Figure 1.1 The Innovation Genome

The quadrants show organizational strengths, that is, those areas where there are the greatest competencies. While it's useful to manage with an eye on strengths, it's also important to work with people who have strengths from the other quadrants and thus create a well-rounded group. Leadership styles are only one part of the equation, however, as other factors, such as forces external to the organization, will also determine how successful you will be at changing existing processes.

### The Collaborate Quadrant

Fellowship, learning, and value-based leadership are most commonly associated with the Collaborate quadrant. This approach to innovation is based on a human-relations view of organizations that emphasizes the need for individuals to unite in a positive way to build cooperative communities of practice. This profile connects individuals to a greater good or a high-principled mission. These organizations are often considered good companies to work for because of the emphasis on balance between job duties and personal life.

Empowering people to do what they believe to be right is essential for the Collaborate leader. Mutual trust and integrity are cornerstones of this culture, which creates highly committed individuals. Leaders develop their teams and team members through organizational learning practices, education, and coaching. This network also includes customers, who are treated as part of the family.

The Collaborate mode isn't focused on short-term gains. Instead, Collaborate individuals scan the horizon in search of long-term potential. Bloomsbury Publishing, a small independent publishing company, is an example of this type of thinking. Founder Nigel Newton, along with three editors, eschewed the idea of mass-marketed books. Instead the company publishes an eclectic mix of well-known and unknown writers. A number of Nobel, Pulitzer, and Booker prize-winning works have borne the Bloomsbury mark. The company has published books by authors such as Nobel Laureate Nadine Gordimer, Margaret Atwood, and John Irving. Ironically, one of the obscure authors Bloomsbury helped develop was JK Rowling, the author of *Harry Potter*, which became one of the best selling books of all time.

What makes Bloomsbury tick? It strives to publish the best literature, not necessarily a best seller. Bloomsbury does what it thinks is right and not what investors tell it to do. The focus is on developing good writers into great writers. Authors are drawn to and remain with Bloomsbury because the publisher-writer relationship is cultivated, not exploited.

In many respects Bloomsbury reflects the practices that would be expected in a Collaborate environment. The workplace reflects employee values and supports collective learning. The company formed a guiding coalition to observe, advise, and teach apprentices. Mentors pass along their knowledge in a manner similar to the guild tradition.

### **The Collaborate Quadrant's Innovation Playbook**

The Collaborate quadrant is based on a social approach. The leaders in this quadrant believe that an enterprise has as much purpose to build relationships, nurture community, and empower individuals as it does to produce goods and services. To accomplish this, the leaders must ensure that new ideas benefit the community and that communication systems and partnerships are sensitive to the needs, abilities, and ambitions of everyone in the organization.

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Collaborate leadership fosters internal stability, security, and growth, even in the face of uncertainty. It assumes that the external environment is best managed through commitment and cooperation. It views customers as partners in an extended community. In a Collaborate environment, loyalty flows in all directions—up, down, and across the organization.

Collaborate leadership strives for a workplace with a strong sense of community and where individuals are encouraged to participate and contribute to the process. This environment can be especially beneficial when there are turbulent external forces that make long-term decision making and planning difficult, because the group's shared values, beliefs, and goals provide much needed direction. Collaborate workplaces often are quite informal, and there are few levels of management.

The Collaborate organization places an emphasis on a learning, nurturing environment. For this reason, these companies often include practices such as personal and professional training, customer-relationship management, team-building activities, and mentoring and coaching.

### **Collaborate Case Examples**

#### **Linux: Innovation Networks and Alliances**

Linux, a simplified software kernel that can run outside any operating system, started as a hobby of a University of Helsinki student named Linus Torvalds. The Linux system is linked to a not-for-profit network, which has formed a community with shared goals and values. The network includes software developers and distributors who create new applications for open-source operating systems that compete with for-profit systems, such as Unix and Windows.

#### **eBay: Searching for and Reapplying Innovative Practices**

Pierre Omidyar started eBay, an online auction site, in 1995. It offers a wide array of goods for sale, ranging from rare collectibles to garage sale castoffs. Both hobbyists and multinationals, such as IBM, sell their wares in this online market. eBay serves as a virtual bazaar that brings together buyers and sellers from around the world. eBay provides a platform that can be used by sellers across most merchandise categories and real-world

locations. Over the years, sellers have formed an online retail community in which they share information and learn from one another.

### **Singapore Air: Innovation as Customer Service and Experience**

In 1965, Singapore separated from Malaysia and became an independent republic. The government formed Singapore Airlines in 1972 as part of a greater plan for the development of an economic engine and a national identity. The airline believes that if it does a good job, passengers will have a more favorable impression of Singapore. Consequently, the airline focuses on world-class customer service. It has pioneered in-flight services such as free drinks and complementary headphones. Singapore Air routinely appears at the top of most international customer satisfaction surveys. This applies not just to the airline industry, which typically shows poor numbers, but to all industries. It is one of the world's most successful airlines, as well as a profitable one.

### **The Create Quadrant**

Big changes, radical experiments, and speculating on new and emerging markets are all hallmarks of the Create quadrant. The start-up firm, the maverick leader, and the iconoclast rebel-entrepreneur all fit here. It's the lottery quadrant—a high-risk affair that has big failures for most and big payoffs for a few. Create leaders are big thinkers, artists, and risk takers. They love an impossible challenge and have dozens of solutions to any problem.

Organizations in the Create quadrant excel at brainstorming, creating elaborate strategic plans, starting spinout ventures under the radar, and assembling a diverse array of characters that would rival any carnival. The Create organization attracts those who are willing to let go of perfection in order to create something new. Breakthrough products, services, ideas, and people are found in this fluid and ever-shifting environment.

The research and development (R&D) department is typically a Create environment. Unlike other areas that require consistency and uniformity, such as production and warehouse operations, R&D thrives on experimentation and speculation. For this reason, employees in the R&D de-

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**Table 1.2 Collaborate Quadrant Characteristics**

*Situation:* External conditions such as market forces and trends. When . . .

- A community united by shared beliefs defines the organization, such as environmental concerns.
- Competency is closely linked to unique individual abilities, such as an entertainer.
- Lifestyle identification determines the product or service, such as motorcycles.

*Purposes:* Outcomes, or the value the organization intends to create

- *Community:* Establishing and maintaining shared values and culture. Common ways of achieving this are networking, empowerment, and team building.
- *Knowledge:* Developing understanding and skills. Common ways of achieving this are training, organizational learning, and human resource management.

*Practices:* Culture, competency, and processes of the organization mission and vision statements

- Knowledge management.
- Learning organization.
- Collaborative communities of practice.
- Culture development and transformation.
- Customer relationship management.
- Competency development.
- Team building.
- Mentoring and coaching.
- Training.

*People:* Individuals in the organization, at all levels

- See potential.
- Build commitment and trust.
- Are sensitive and caring.
- Are patient listeners.
- Encourage participation.

- Respect differences.
  - Empower people.
- Preferred *environments*
- Family atmosphere.
  - Collaborative workplace.
  - Shared values and vision.
  - Integrated personal goals.
  - Informal atmosphere.
  - Teaching and coaching.
- Preferred *questions*
- *Interest*: Do we care about this idea?
  - *Knowledge*: What are we learning from this idea?
  - *Beliefs*: Does this idea fit with our values?
- Preferred *communication*
- Talk about personal experiences.
  - Story telling.
  - Smiles.
  - Expressing emotions.
  - Putting the person at ease.
  - Thinking out loud.
  - Using nonverbal communication.
  - Acknowledging the role of intuition.
  - Recognizing important spiritual symbols.
- Example *organizations*
- Bloomsbury Publishing
  - McKinsey and Co
  - Harley Davidson
  - eBay
  - WR Gore Company
  - The Body Shop
  - Not-for-profits
  - Universities

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partment need to be comfortable in an environment that calls for jumping tracks if a particular process isn't producing the desired results.

Companies employ the Create quadrant to drive innovative ideas. The companies strive to develop products, services, and methods that will serve their internal and external customers in the future. To achieve these aims, leaders often take on bold initiatives that rely on revolutionary technologies and methodologies. However, in a true Create environment, plans must also be flexible to allow the organization to quickly adapt to emerging trends.

*Eureka!* is Roger Newton's business. As a top researcher at Parke-Davis and Warner-Lambert, Newton was a key member of the team that developed *Lipitor*® (atorvastatin calcium), the world's top-selling cholesterol-lowering medication, and one of the most profitable products ever created. For most researchers, the development of the greatest blockbuster drug in history would have been enough, but ever the visionary, Newton saw new possibilities for reducing the risk of heart disease and acted on them.

Newton and a few key partners started a new firm, Esperion Therapeutics, to develop a synthetic version of good cholesterol that would reduce the plaque in the arteries of the heart. The company's approach to drug development, and the medication itself, was radically different from conventional drug-discovery methods that require thousands of experiments with minor variations to develop a highly effective drug molecule.

Instead, Newton focused on making sense of seemingly disparate data. For example, he found statistical anomaly in some medical records from an Italian village in which residents had an unusually low rate of heart disease. Upon closer examination, these residents appeared to have a strain of ultraeffective good cholesterol (HDL) that offset the negative effects of the bad (LDL) cholesterol. Newton and his team believed they could create a synthetic version of this good cholesterol and use it treat patients at risk for problems from bad cholesterol.

Even with Newton's winning record, few experts expected the new venture to succeed. With fewer than 70 employees and less than a quarter of the funding that the major pharmaceutical firms were spending to discover medications to treat the same disease, Newton hit it big again. His bold departure from the norm paid off. In 2003 Pfizer, purchased Esperion Therapeutics for \$1.3 billion in cash. In this case lightning struck twice for a visionary who seemed to know when and where the lightning bolts were going to hit before anyone else did.

## The Create Quadrant's Innovation Playbook

The Create quadrant is the environment that keeps regenerating itself. In this environment, one idea leads to another and to another and so on. In a sense, the Create quadrant is about producing many radically different ideas instead of one big one.

The Create approach to innovation is highly responsive to turbulent and fast-changing conditions, which is why it's commonly found in high-tech and biotech companies. When the future is unclear or rapidly changing, the ability to launch a wide array of experiments and speculate on new markets provides a strategic advantage.

Create leaders judge their success on the innovativeness and future readiness of their products, services, and ideas. They keep an eye on future trends, judging which way they think the wind will blow and then applying their imaginations to the difficult task of making the wind blow in the desired direction.

Individuals who work in a Create organization are usually involved in all aspects of the enterprise. Power and responsibility flow from individual to individual or from team to team according to their capability and the project at hand. The glue that holds Create organizations together is a shared pursuit of a grand vision, seemingly impossible goals, radical innovation, and a culture of risk-taking.

There are a number of common practices in a Create organization, including strategic forecasting, strong emphasis on new product development, growth and market disruption strategies, and product spin-offs.

### Create Case Examples

#### ***Apple: Innovation as Design and Fashion<sup>6</sup>***

Apple Computer, a San Jose-based company, was hailed as a success when it first introduced the personal computer in the late 1970s, but less than 20 years later, in 1997, Apple was faltering with few new products and an ever-shrinking share of the personal computer market. The board brought back founding father Steve Jobs as CEO with a mandate to reinvigorate the company. Jobs responded to the challenge with a number of products, starting with the iMac, a colorful desktop computer and an attention-getting marketing campaign called *Think Different*. Apple then introduced the iPod, a digital MP3 audio player and managed to hit a home run with development of iTunes, a pay-for-music download service, which allowed iPod owners to download songs for a fee from the Internet.

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### ***Celera: Creating a New Approach to a Difficult Challenge***

In 1990, the United States' National Institutes of Health (NIH) and various international groups launched the Human Genome Project (HGP), a major effort to unravel the complex code of human genes. The project was projected to take 15 years to complete. Eight years after the project began, Craig Venter, a former NIH member, formed Celera, a biotech firm, and announced that his company was going to sequence the human genome by 2001, four years ahead of the HGP's target date. Celera relied on a radical technique called shotgunning, first developed by Nobel laureate Hamilton Smith, that utilizes an army of gene-sequencing machines and advanced software. Celera managed to provide the first blueprints of the human genome within his proposed timeframe of four years. Although the company may not be a household name, it has helped pioneer fields such as genomics, the discovering and understanding of genetic blueprints, and bioinformatics, the collecting, mapping, visualizing, and modeling of genetic information.

### ***IBM: Innovation as Market Making'***

In January 1993, International Business Machines (IBM), considered a computer powerhouse, announced that it had suffered a \$5 billion loss the previous year. The company then set on a course that led to one of the most legendary turn-around efforts in corporate history. Realizing that it couldn't compete on costs against rivals like Dell, IBM sold its desktop and laptop divisions. Next it unveiled a new generation of powerful technology that helped differentiate it from other computer manufacturers. Most importantly, it moved toward selling consulting services, focusing on creating complete solutions for clients. For example, it worked with the Mayo Clinic to develop technology for gene mapping, as well as an extensive system that supports patient care. IBM no longer waits for a client to call; instead it approaches clients directly and offers solutions to their problems.

### **The Compete Quadrant**

The Compete quadrant is a survival-of-the-fittest approach to innovation where the strong eat the weak and sprint past the slow to new markets and riches. This is a quadrant in which high achievers thrive. They believe that business is a zero-sum game—everyone is either a winner or a loser.

High-achieving competitors thrive in the Compete quadrant. They are most comfortable in a results-oriented environment. They enjoy challenges and the hard work needed to win. Compete leaders motivate their employees by articulating clear objectives, which often are in the form of strategic moves to beat the competition.

Like the Create quadrant, the Compete environment maintains an outward focus on meeting customer demand. Where the two differ is in how they manage risk. A Create company takes risk in stride; a Compete company hedges against it. An example of this hedging is Procter and Gamble, the world leader in consumer products. With more than 300 brands and thousands of products, P&G is able to customize its products to individual markets. In some cases, its own brands rival each other, thus ensuring that the company garners a larger share of the overall market.

What is P&G's roadmap to success? It has developed a system to pick winners. Through exhaustive market research, P&G is able to identify those proposed products that will most likely do well in the marketplace. As a result, it is able to achieve greater returns with less risk. Existing products that are performing poorly are quickly yanked from the market. In addition, brands receive regular upgrades, so they stay vital instead of dying.

P&G exhibits various Compete characteristics, such as taking hard-nosed and decisive business action, putting money and talent in the best possible places, and focusing on short-term measurable results. P&G also makes deals whenever necessary in order to draw on other resources, whether they be products or services, partners or customers.

### **The Compete Quadrant's Innovation Playbook**

The Compete quadrant is based on a business or profit-centric approach to innovation. In most cases, Compete companies are publicly traded business and therefore must demonstrate short-term profitability for shareholders. Firms in the pharmaceutical, consumer electronics, and financial services arenas are typically Compete organizations.

Compete leaders believe that the world is competitive and that customers are self-interested and choosy. Compete companies judge their success by their market share, revenue, brand equity, and profitability. Compete leadership focuses on external forces, including customers, competitors, business partners, suppliers, and licensees.

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**Table I.3 Create Quadrant Characteristics**

*Situation:* External conditions such as market forces and trends. When . . .

- Differentiation creates significantly higher margins, such as consumer electronics.
- Start-ups compete through radical innovation with established firms.
- An industry is situated around blockbuster invention, such as pharmaceuticals.

*Purposes:* Outcomes, or the value the organization intends to create

- *Innovation:* Making new and better products and services. Common ways of achieving this are creative problem solving, new-product development, and change management.
- *Growth:* Prospecting for new and future market opportunities. Common ways of achieving this are strategic forecasting, trend analysis, and shared vision management.

*Practices:* Culture, competency, and processes of the organization mission and vision statements

- Creativity methods.
- Strategic forecasting and scenario planning.
- Corporate venturing.
- Spin-offs.
- Entrepreneuring.
- Growth and market disruption strategies.
- Change and innovation programs.
- New-product development.
- Radical experiments.
- Borderless and virtual organizations.

*People:* Individuals in the organization, at all levels

- Are visionary dreamers.
- Are clever.
- Are optimistic.
- Are enthusiastic.
- Are quick on their feet.
- Are expressive.

- |                                |  |
|--------------------------------|--|
| Preferred <i>environments</i>  | <ul style="list-style-type: none"><li>• Are big-picture thinkers,</li><li>• Stimulating projects</li><li>• Flexible hours</li><li>• Free from everyday constraints</li><li>• New initiatives</li><li>• Independent work streams</li><li>• Diverse workforce</li></ul>  |
| Preferred <i>questions</i>     | <ul style="list-style-type: none"><li>• <i>Innovation</i>: Is this idea a breakthrough?</li><li>• <i>Direction</i>: Does this idea move us toward the future?</li><li>• <i>Emerging opportunity</i>: Will this idea allow us to experiment as we go along?</li></ul>   |
| Preferred <i>communication</i> | <ul style="list-style-type: none"><li>• Be enthusiastic and energetic.</li><li>• Look at the big picture,</li><li>• Expect to be interrupted in midsentence.</li><li>• Draws pictures and designs of concepts.</li><li>• Use metaphors</li><li>• Look at the future.</li><li>• Make ideas conceptually sound and clear.</li><li>• Ask open-ended questions.</li><li>• Explore how the pieces fit together.</li></ul> |
| Example <i>organizations</i>   | <ul style="list-style-type: none"><li>• Pixar</li><li>• Apple</li><li>• Phillips</li><li>• Google</li><li>• Nokia</li><li>• Versace</li><li>• Bio techs</li><li>• Start-ups</li></ul>  |

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There are a number of practices that Compete organizations gravitate toward. Many of them are aggressive in nature and provide rewards to those who achieve or produce the most. These practices include mergers and acquisitions, performance management scorecards, pay-for-performance plans, and sales-channel management.

### Compete Case Examples

#### ***Dell: Business Model Innovation<sup>8</sup>***

Michael Dell founded his namesake computer company in 1984 while he was still a student at the University of Texas at Austin. His idea was simple: let customers design their computers. He advertised in the back of PC magazines and took orders by phone. By the early 1990s, Dell began selling over the Internet with a direct-to-consumer sales model. When Dell discovered that no one would service its computers, it established a worldwide, world-class customer support system. In addition, the company started selling peripherals and add-ons to the computers, such as software and printers. Eventually Dell expanded into other technologies, such as plasma televisions and MP3 players. Dell's success has rested in part on lowering the time and cost of making computers, which it was able to do through an innovative business model of just-in-time inventory and manufacturing practices.

#### ***Nike: Innovation through Marketing and Brand Management***

In 1962, Phil Knight was a middle-distance runner at the University of Oregon under the direction of legendary track coach Bill Bowerman. Knight and Bowerman wanted to bring inexpensive Japanese shoes made of synthetic materials, such as nylon, to the U.S. market. In the early 1970s Knight sold his own brand of track shoes directly to the public under the brand name Nike. The brand's distinctive logo of a swoosh soon became synonymous with running shoes. Nike enjoyed a meteoric rise after it signed a rookie from the Chicago Bulls basketball team named Michael Jordan to endorse its basketball shoes. Nike soon expanded its product line to include cross-training shoes and apparel. It signed a new generation of superstar endorsers, such as golf great Tiger Woods. Its late 1980s *Just Do It* ad campaign was so successful that it became part of popular culture around the world.

### **Amazon: Innovation through Channel and Delivery**

Founded during the height of the dot-com boom of the mid-1990s, Amazon began as an online bookstore. Founder Jeff Bezos chose the name Amazon as a metaphor for the great river on which all forms of life and commerce travel. Bezos adopted an unusual slow-growth business model for his company. He began by focusing on the logistics of delivering books ordered online. He did this by establishing a series of procurement and distribution warehouses around the U.S. and the world. The company also experimented with various marketing techniques, including Amazon associates, selling used books, and offering free shipping. He also expanded the items sold on Amazon to include music CDs, software, electronics, jewelry, toys, apparel, and even automobiles. In an era when Internet sales were just in their infancy, Amazon became associated with safe and secure transactions and a guarantee that products will be delivered as promised.

### **The Control Quadrant**

The Control quadrant takes a systematic view of innovation. Through the discipline of applying multistep processes, such as continuous improvement, that are known to work with little risk, the slogan for this quadrant could well be, "Getting better every day in every way." This approach has a safety-net feature to it, and for this reason it's particularly useful for large complex organizations that need to create products and services that must have a hit at the first at-bat.

Control quadrant leaders are methodical, pragmatic, and precise. They excel in a workplace that has clearly delineated roles and responsibilities, systems and processes, and policies and procedures that ensure things are done correctly. They are clear-thinking realists.

The end result of the creative process in the Control quadrant is not so much an entirely new product but instead an existing product with minor variations.

The Control quadrant is often overlooked as a form of creativity because, quite frankly, implementing incremental changes in systems, structures, and standards just doesn't *look* creative. But think back to Aesop's fable, *The Tortoise and the Hare*. What lesson were we supposed to learn? Slow and steady wins the race.

In the real world, many industry giants are like the tortoise and use a safe, predictable method to win the race. One such company is Toyota,

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**Table I.4 Compete Quadrant Characteristics**

*Situation:* External conditions such as market forces and trends. When . . .

- A community is united by shared beliefs. Shareholder demands are the primary driver, such as financial institutions.
- Aggressive competition changes the market dynamics through mergers and acquisitions.
- Investors demand quick financial results.

*Purposes:* Outcomes, or the value the organization intends to create

- *Speed:* Moving quickly to capture an opportunity. Common ways of achieving this are mergers and acquisitions, branding, and customer service.
- *Profits:* Maximizing shareholder earnings. Common ways of achieving this are using goals and metrics, strategic resource allocation, and portfolio management.

*Practices:* Culture, competency, and processes of the organization mission and vision statements

- Economic value-added management.
- Mergers and acquisitions.
- Real options analysis.
- Time to market reduction.
- Performance management scorecards.
- Profit insight processes.
- Pay-for-performance plans.
- Branding.
- Sales channel management.
- Portfolio management.

*People:* Individuals in the organization, at all levels

- Are goal and action-oriented.
- Are impatient.
- Are assertive.
- Are driven.
- Are decisive.
- Are challenging.

- Are competitive.
- Preferred *environments*
- Competitive.
  - High pressure and impact.
  - Fast moving and high energy.
  - Image enhancing deal making.
  - With quantifiable results.
  - Winning and losing
- Preferred *questions*
- *Cash value*: Is the payoff for this idea big enough?
  - *Immediacy*: Can we get this idea done quickly?
  - *Leverage*: Can this idea be used to create value in other areas?
- Preferred *communication*
- Get to the point and summarize.
  - Be logical and analytical.
  - Critically confront the downside.
  - Use quantifiable facts to illustrate points.
  - Be very matter-of-fact.
  - Don't get emotional.
  - Show personal ownership
  - Demonstrate a bias toward action.
- Example *organizations*
- Unilever
  - Microsoft
  - GE
  - Bloomberg
  - PepsiCo
  - Citicorp
  - Blue-chip companies
  - Conglomerates

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the Japanese automobile manufacturer. The company has introduced or perfected many of the industry's foremost system and process tools for design and development.

Toyota is known for its leading methods such as continuous improvement, which are its never-ending efforts to boost quality and performance; flexible platform systems, which use common components in as many products as possible to reduce costs; and just-in-time inventory, which eliminates waste by providing what is needed, when it's needed, and in the exact amount needed.

These methods have helped make Toyota Japan's number one automaker. It also helped the company when it wanted to break into the luxury car market and had to compete against long-established European carmakers. Toyota's entry, the Lexus, ranks at the top of customer surveys, such as those conducted by JD Power. This reputation for consistent quality is helping to make the Lexus the world's most wide-selling brand of luxury car.

Toyota thrives in the Control quadrant. It breaks processes down to the most elemental level in order to understand how something works and how it can be made better. In true Control quadrant fashion, Toyota endlessly repeats a cycle of testing and improving its products.

### **The Control Quadrant's Innovation Playbook**

The Control quadrant is based on a technological or engineering approach to innovation. Control leadership focuses inward and requires discipline. It is concerned with improving quality while at the same time cutting costs. This leadership style results in extensive processes, systems, and technology.

Control leadership is especially valuable in industries that require standardized procedures, rule reinforcement, and consistent products, such as medicine and transportation. Control measures serve to eliminate errors and increase the likelihood of expected outcomes. In today's manufacturing setting, Control-focused activities include business-process improvement, total-quality management, simulations, and contingency planning.

### **Control Case Examples**

#### ***Samsung: Product Innovation<sup>9</sup>***

In the 1970s, the South Korean conglomerate ("chaebol") Samsung quietly entered the electronics market. While Samsung products sold well in East

Asian markets, sales lagged in the U.S. and European markets, where they were viewed as inexpensive alternatives to better-recognized brands. This perception hurt the company, and, by the mid-1990s, with the onset of the Asian currency crisis, Samsung found itself deep in debt and facing bankruptcy. In the mid-1990s, Samsung Chairman Kun-hee Lee developed a global design initiative, which had company employees ranging from designers to engineers participate in design classes. As part of this effort, Samsung focused on creating the most advanced liquid crystal displays (LCDs) in the world. The LCDs it produced eventually became part of state-of-the-art computer monitors, large-screen plasma televisions, and the miniature screens found on cellular phones and PDAs. Through its emphasis on quality design, Samsung replaced its down-market image with that of a technology leader.

### ***Wal-Mart: Process Innovation<sup>10</sup>***

Historically, manufacturers provided retailers with the specifications and benefits of its products. In turn, the retailer would suggest to the customer what to buy. Not anymore. Wal-Mart, the retail giant, reversed that flow by using an enterprise systems to track customer buying patterns and inform manufacturers of features that customers want. In the Wal-Mart world, the customer sets the targets for price, features, colors, and other attributes of the product. Wal-Mart continuously reviews all aspects of its business—from supply chain operations to service—for opportunities to cut costs and improve sales. In this way, it has managed to become the low-price leader.

### ***Nokia: Platform Innovation***

Nokia, named after a river in Finland, is a major manufacturer of cellular phones. But, the company wasn't always a high-tech firm. In the late 1970s, Nokia broke free from its beginnings as a paper manufacturing and rubber processing business when it acquired communication technologies such as Private Mobile Radio. While global competitors like Motorola dominated the early cellular phone market with a "low band" or analog technology, Nokia worked the political venues in Europe for the adoption of a "digital" communication format called GSM. The GSM platform not only allowed for clearer and wider transmission, but it also enabled the sending and receiving of data, like on a computer network.

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**Table I.5 Control Quadrant Characteristics**

*Situation:* External conditions such as market forces and trends. When . . .

- Scale and scope of organizational processes are very large and complex, such as automobile manufacturers.
- Government regulations and standards determine business practices, such as medicine.
- Failure is not an option, such as aerospace.

*Purposes:* Outcomes, or the value the organization intends to create

- *Efficiency:* Using resources in the best way possible. Common ways of achieving this are procedures, budgeting, and organizational design.
- *Quality:* Eliminating errors. Common ways of achieving this are process controls, systems, and technology.

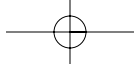
*Practices:* Culture, competency, and processes of the organization mission and vision statements

- Business process improvement.
- Activity-based costing.
- Benchmarking.
- Lean manufacturing.
- Total quality management.
- Simulations.
- Contingency planning.
- Pervasive information systems.
- Reorganization.
- Supply chain management.

*People:* Individuals in the organization, at all levels

- Are pragmatic.
- Are organized and methodical.
- Are scientific or technical.
- Operate by the book.
- Are problem solvers.
- Are objective.

- |                                |  |
|--------------------------------|--|
|                                | <ul style="list-style-type: none"><li>• Are persistent.</li></ul>  |
| Preferred <i>environments</i>  | <ul style="list-style-type: none"><li>• Clear roles and responsibilities.</li><li>• Stable project management.</li><li>• Logical objectives.</li><li>• Methodical processes.</li><li>• Standards and regulations.</li><li>• Ordered and structured work.</li></ul>   |
| Preferred <i>questions</i>     | <ul style="list-style-type: none"><li>• <i>Cost</i>: Can we afford this idea?</li><li>• <i>Feasibility</i>: Can we really implement this idea?</li><li>• <i>Standards</i>: Does this idea comply with critical standards?</li></ul>  |
| Preferred <i>communication</i> | <ul style="list-style-type: none"><li>• Provide details.</li><li>• Be neat and on time.</li><li>• Follow the rules.</li><li>• Explain in sequential order.</li><li>• Conform to accepted esprit de corps.</li><li>• Ask close-ended questions.</li><li>• Provide detailed data.</li><li>• Demonstrate how something works.</li></ul> |
| Example <i>organizations</i>   | <ul style="list-style-type: none"><li>• Toyota</li><li>• Shell oil</li><li>• Airbus</li><li>• Wal-Mart</li><li>• Siemens</li><li>• LG</li><li>• Government agencies</li><li>• Medical centers</li></ul>  |



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By the early 1990s, Nokia decided to focus its business on mobile phones using the digital standard. The company's technological design and platform helped it outpace competitors.

### **Building on the Innovation Genome**

Recognizing what results your organization wants and the practices, competencies, and the leadership types associated with these outcomes is the first step toward crafting your own approach to making innovation work where you work. The Innovation Genome will give you insight into the best way to respond to challenges in multiple situations. The Genome will serve as a guide throughout the seven-step innovation process spelled out in the rest of this book, providing a way for you to gauge your company's progress and ensure that you get the outcomes you seek.

