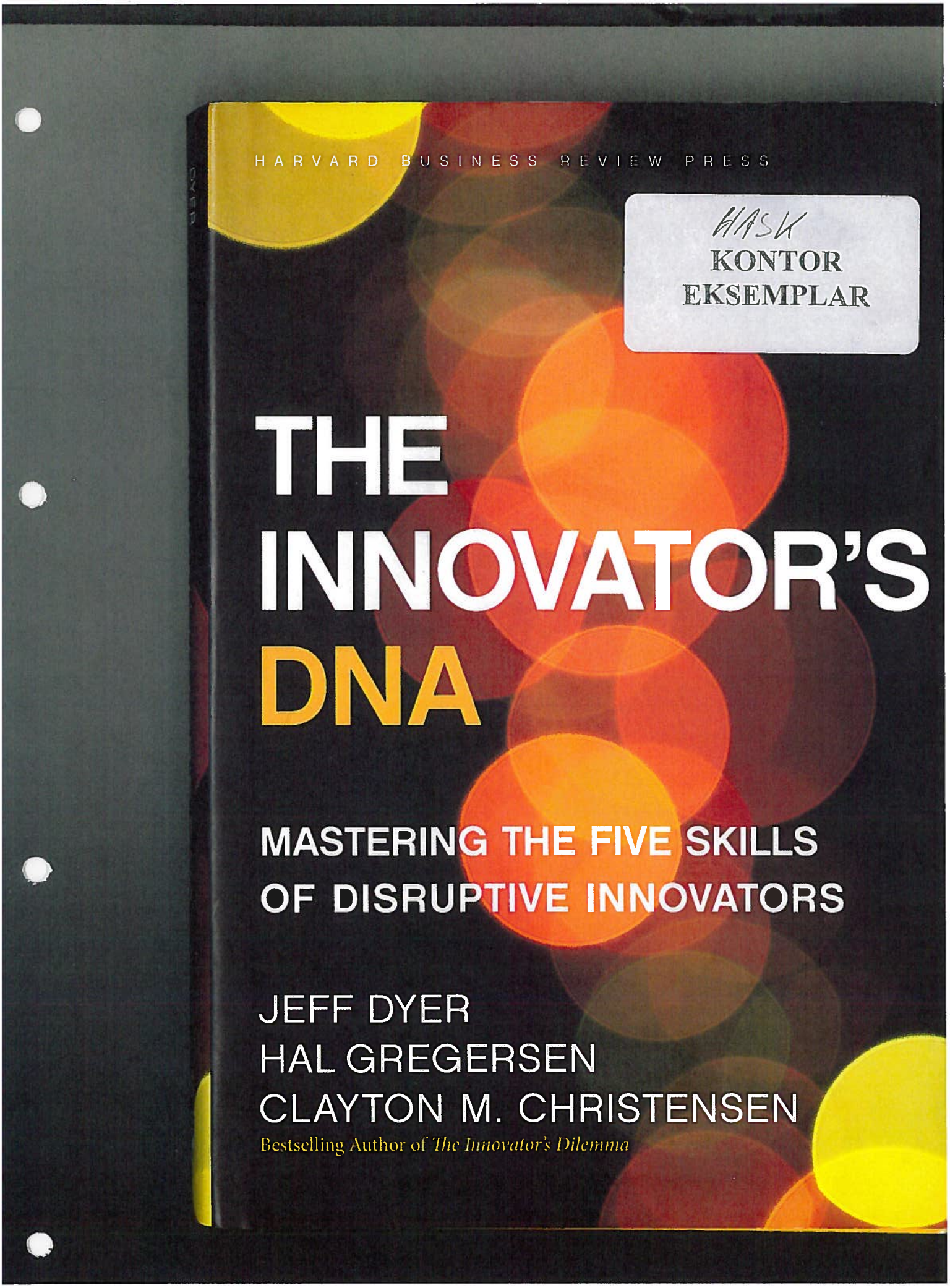
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MASTERING THE FIVE SKILLS
OF DISRUPTIVE INNOVATORS
JEFF DYER
HAL GREGERSEN
CLAYTON M. CHRISTENSEN
Bestselling Author of The Innovator's Dilemma

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The DNA of Disruptive Innovators

"I want to put a ding in the universe."

—Steve Jobs, founder and CEO,
Apple Inc.

DO I KNOW HOW to generate innovative, even disruptive, business ideas? Do I know how to find creative people or how to train people to think outside the box? These questions stump most senior executives, who know that the ability to innovate is the "secret sauce" of business success. Unfortunately, most of us know very little about what makes one person more creative than another. Perhaps for this reason, we stand in awe of visionary entrepreneurs such as Apple's Steve Jobs, Amazon's Jeff Bezos, and eBay's Pierre Omidyar, and innovative executives like P&G's A. G. Lafley, Bain & Company's Orit Gadiesh, and eBay's Meg Whitman. How do these people come up with groundbreaking new ideas? If it were possible to discover the inner

workings of the masters' minds, what could the rest of us learn about how innovation really happens?

Ideas for Innovation

Consider the case of Jobs, who was recently ranked the world's number-one best-performing CEO in a study published by *Harvard Business Review*.[1] You may recall Apple's famous "Think Different" ad campaign, whose slogan says it all. The campaign featured innovators from different fields, including Albert Einstein, Picasso, Richard Branson, and John Lennon, but Jobs's face might easily have been featured among the others. After all, everyone knows that Jobs is an innovative guy, that he knows how to think different. But the question is, just how does he do it? Indeed, how does any innovator think different?

The common answer is that the ability to think creatively is genetic. Most of us believe that some people, like Jobs, are simply born with creative genes, while others are not. Innovators are supposedly right brained, meaning that they are genetically endowed with creative abilities. The rest of us are left brained—logical, linear thinkers, with little or no ability to think creatively.

If you believe this, we're going to tell you that you are largely wrong. At least within the realm of business innovation, virtually everyone has some capacity for creativity and innovative thinking. Even you. So using the example of Jobs, let's explore this ability to think different. How did Jobs come up with some of his innovative ideas in the past? And what does his journey tell us?

Innovative Idea #1: Personal Computers Should Be Quiet and Small

One of the key innovations in the Apple II, the computer that launched Apple, came from Jobs's decision that it should be quiet. His conviction resulted, in part, from all the time he'd spent

studying Zen and meditating.[2] He found the noise of a computer fan distracting. So Jobs was determined that the Apple II would have no fan, which was a fairly radical notion at the time. Nobody else had questioned the need for a fan because *all* computers required a fan to prevent overheating. Getting rid of the fan wouldn't be possible without a different type of power supply that generated less heat.

So Jobs went on the hunt for someone who could design a new power supply. Through his network of contacts, he found Rod Holt, a forty-something, chain-smoking socialist from the Atari crowd.[3] Pushed by Jobs, Holt abandoned the fifty-year-old conventional linear unit technology and created a switching power supply that revolutionized the way power was delivered to electronics products. Jobs's pursuit of quiet and Holt's ability to deliver an innovative power supply that didn't need a fan made the Apple II the quietest and smallest personal computer ever made (a smaller computer was possible because it didn't need extra space for the fan).

Had Jobs never asked, "Why does a computer need a fan?" and "How do we keep a computer cool without a fan?" the Apple computer as we know it would not exist.

Innovative Idea #2: The Macintosh User Interface, Operating System, and Mouse

The seed for the Macintosh, with its revolutionary operating system, was planted when Jobs visited Xerox PARC in 1979. Xerox, the copier company, created the Palo Alto Research Center (PARC), a research lab charged with designing the office of the future. Jobs wrangled a visit to PARC in exchange for offering Xerox an opportunity to invest in Apple. Xerox didn't know how to capitalize on the exciting things going on at PARC, but Jobs did.

Jobs carefully observed the PARC computer screen filled with icons, pull-down menus, and overlapping windows—all controlled

by the click of a mouse. "What we saw was incomplete and flawed," Jobs said, "but the germ of the idea was there . . . within ten minutes it was obvious to me that all computers would work like this."[4] He spent the next five years at Apple leading the design team that would produce the Macintosh computer, the first personal computer with a graphical user interface (GUI) and mouse. Oh, and he saw something else during the PARC visit. He got his first taste of object-oriented programming, which became the key to the OSX operating system that Apple acquired from Jobs's other start-up, NeXT Computers. What if Jobs had never visited Xerox PARC to observe what was going on there?

Innovative Idea #3: Desktop Publishing on the Mac

The Macintosh, with its LaserWriter printer, was the first computer to bring desktop publishing to the masses. Jobs claims that the "beautiful typography" available on the Macintosh would never have been introduced if he hadn't dropped in on a calligraphy class at Reed College in Oregon. Says Jobs:

> Reed College offered perhaps the best calligraphy instruction in the country. Throughout the campus every poster, every label on every drawer, was beautifully hand-calligraphed. Because I had dropped out and didn't have to take the normal classes, I decided to take a calligraphy class to learn how to do this. I learned about serif and san serif typefaces, about varying the amount of space between different letter combinations, about what makes great typography great. It was beautiful, historical, artistically subtle in a way that science can't capture, and I found it fascinating. None of this had even a hope of any practical application in my life. But ten years later, when we were designing the first Macintosh computer, it all came back to me. And we designed it all into the Mac. It

> was the first computer with beautiful typography. If I had never dropped in on that single course in college, the Mac would have never had multiple typefaces or proportionally spaced fonts. And since Windows just copied the Mac, it's likely that no personal computer would have them.[5]

What if Jobs hadn't decided to drop in on the calligraphy classes when he had dropped out of college?

So what do we learn from Jobs's ability to think different? Well, first we see that his innovative ideas didn't spring fully formed from his head, as if they were a gift from the Idea Fairy. When we examine the origins of these ideas, we typically find that the catalyst was: (1) a question that challenged the status quo, (2) an observation of a technology, company, or customer, (3) an experience or experiment where he was trying out something new, or (4) a conversation with someone who alerted him to an important piece of knowledge or opportunity. In fact, by carefully examining Jobs's *behaviors* and, specifically, how those behaviors brought in new diverse knowledge that triggered an innovative idea, we can trace his innovative ideas to their source.

What is the moral of this story? We want to convince you that creativity is not just a genetic endowment and not just a cognitive skill. Rather, we've learned that creative ideas spring from behavioral skills that you, too, can acquire to catalyze innovative ideas in yourself and in others.

What Makes Innovators Different?

So what makes innovators different from the rest of us? Most of us believe this question has been answered. It's a genetic endowment. Some people are right brained, which allows them to be more intuitive and divergent thinkers. Either you have it or you don't. But does research really support this idea? Our research confirms

others' work that creativity skills are not simply genetic traits endowed at birth, but that they can be developed. In fact, the most comprehensive study confirming this was done by a group of researchers, Merton Reznikoff, George Domino, Carolyn Bridges, and Merton Honeymon, who studied creative abilities in 117 pairs of identical and fraternal twins. Testing twins aged fifteen to twenty-two, they found that only about 30 percent of the performance of identical twins on a battery of ten creativity tests could be attributed to genetics.[6] In contrast, roughly 80 percent to 85 percent of the twins' performance on general intelligence (IQ) tests could be attributed to genetics.[7] So general intelligence (at least the way scientists measure it) is basically a genetic endowment, but creativity is not. *Nurture trumps nature as far as creativity goes.* Six other creativity studies of identical twins confirm the Reznikoff et al. result: roughly 25 percent to 40 percent of what we do innovatively stems from genetics.[8] That means that roughly two-thirds of our innovation skills *still* come through learning—from first understanding the skill, then practicing it, and ultimately gaining confidence in our capacity to create.

This is one reason that individuals who grow up in societies that promote community versus individualism and hierarchy over merit—such as Japan, China, Korea, and many Arab nations—are less likely to creatively challenge the status quo and turn out innovations (or win Nobel prizes). To be sure, many innovators in our study seemed genetically gifted. But more importantly, they often described how they acquired innovation skills from role models who made it "safe" as well as exciting to discover new ways of doing things.

If innovators can be made and not just born, how then do they come up with great new ideas? Our research on roughly five hundred innovators compared to roughly five thousand executives led us to identify five discovery skills that distinguish innovators from typical executives (for detail on the research

methods, see appendix B). First and foremost, innovators count on a cognitive skill that we call "associational thinking" or simply "associating." Associating happens as the brain tries to synthesize and make sense of novel inputs. It helps innovators discover new directions by making connections across seemingly unrelated questions, problems, or ideas. Innovative breakthroughs often happen at the intersection of diverse disciplines and fields. Author Frans Johanssen described this phenomenon as "the Medici effect," referring to the creative explosion in Florence when the Medici family brought together creators from a wide range of disciplines—sculptors, scientist, poets, philosophers, painters, and architects. As these individuals connected, they created new ideas at the intersection of their respective fields, thereby spawning the Renaissance, one of the most innovative eras in history. Put simply, innovative thinkers connect fields, problems, or ideas that others find unrelated.

The other four discovery skills trigger associational thinking by helping innovators increase their stock of building-block ideas from which innovative ideas spring. Specifically, innovators engage the following behavioral skills more frequently:

Questioning. Innovators are consummate questioners who show a passion for inquiry. Their queries frequently challenge the status quo, just as Jobs did when he asked, "Why does a computer need a fan?" They love to ask, "If we tried this, what would happen?" Innovators, like Jobs, ask questions to understand how things really are today, why they are that way, and how they might be changed or disrupted. Collectively, their questions provoke new insights, connections, possibilities, and directions. We found that innovators consistently demonstrate a high Q/A ratio, where questions (Q) not only outnumber answers (A) in a typical conversation, but are valued at least as highly as good answers.

Observing. Innovators are also intense observers. They carefully watch the world around them—including customers, products, services, technologies, and companies—and the observations help them gain insights into and ideas for new ways of doing things. Jobs's observation trip to Xerox PARC provided the germ of insight that was the catalyst for both the Macintosh's innovative operating system and mouse, and Apple's current OSX operating system.

Networking. Innovators spend a lot of time and energy finding and testing ideas through a diverse network of individuals who vary wildly in their backgrounds and perspectives. Rather than simply doing social networking or networking for resources, they actively search for new ideas by talking to people who may offer a radically different view of things. For example, Jobs talked with an Apple Fellow named Alan Kay, who told him to "go visit these crazy guys up in San Rafael, California." The crazy guys were Ed Catmull and Alvy Ray, who headed up a small computer graphics operation called Industrial Light & Magic (the group created special effects for George Lucas's movies). Fascinated by their operation, Jobs bought Industrial Light & Magic for $10 million, renamed it Pixar, and eventually took it public for $1 billion. Had he never chatted with Kay, he would never have wound up purchasing Pixar, and the world might never have thrilled to wonderful animated films like *Toy Story*, *WALL-E*, and *Up*.

Experimenting. Finally, innovators are constantly trying out new experiences and piloting new ideas. Experimenters unceasingly explore the world intellectually and experientially, holding convictions at bay and testing hypotheses along the way. They visit new places, try new things, seek new information, and experiment to learn new things. Jobs, for example, has tried new experiences all his life—from meditation and

living in an ashram in India to dropping in on a calligraphy class at Reed College. All these varied experiences would later trigger ideas for innovations at Apple Computer.

Collectively, these discovery skills—the cognitive skill of associating and the behavioral skills of questioning, observing, networking, and experimenting—constitute what we call the innovator's DNA, or the code for generating innovative business ideas.

The Courage to Innovate

Why do innovators question, observe, network, and experiment more than typical executives? As we examined what motivates them, we discovered two common themes. First, they actively desire to change the status quo. Second, they regularly take smart risks to make that change happen. Consider the consistency of language that innovators use to describe their motives. Jobs wants to "put a ding in the universe." Google cofounder Larry Page has said he's out to "change the world." These innovators steer entirely clear of a common cognitive trap called *the status quo bias*—the tendency to prefer an existing state of affairs to alternative ones. Most of us simply accept the status quo. We may even like routine and prefer not to rock the boat. We adhere to the saying, "if it ain't broke, don't fix it," while not really questioning whether "it" is "broke." In contrast, innovators see many things as "broke." And they want to fix them.

How do innovators break the status quo? One way is to refuse to be dictated by other people's schedules. Just glance at an innovative executive's typical calendar and you will find a radically different schedule compared to less inventive executives. *We found that innovative entrepreneurs (who are also CEOs) spend 50 percent more time on discovery activities (questioning, observing, experimenting, and networking) than CEOs with no innovation track*

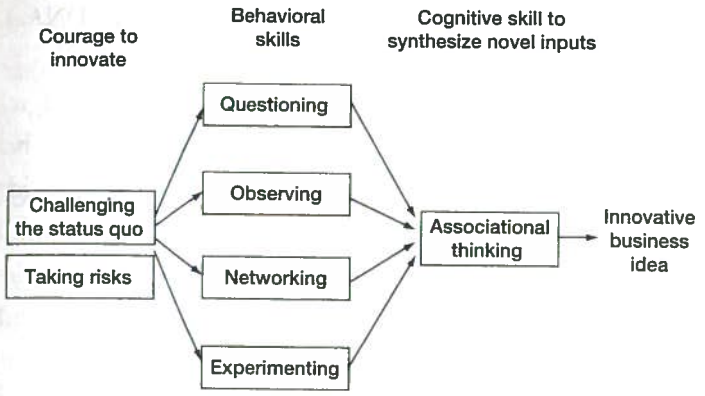
record. That translated into spending almost one more day each week on discovery activities. They understand that fulfilling their dreams to change the world means they've got to spend a significant amount of time trying to discover *how* to change the world. And having the courage to innovate means that they are actively looking for opportunities to change the world.

Embracing a mission for change makes it much easier to take smart risks, make mistakes, and most of all, learn quickly from them. Most innovative entrepreneurs we studied felt that mistakes are nothing to be ashamed of. In fact, they are an expected cost of doing business. "If the people running Amazon.com don't make some significant mistakes," Jeff Bezos told us, "then we won't be doing a good job for our shareholders because we won't be swinging for the fences." In short, innovators rely on their "courage to innovate"—an active bias against the status quo and an unflinching willingness to take smart risks—to transform ideas into powerful impact.

In summary, the DNA of innovators—or the code for generating innovative ideas—is expressed in the model shown in figure 1-1. The key skill for generating innovative ideas is the cognitive skill of associational thinking. The reason that some people generate more associations than others is partly because their brains are just wired that way. But a more critical reason is that they more frequently engage in the behavioral skills of questioning, observing, networking, and experimenting. These are the catalysts for associational thinking. Of course, the next question is, why do some people engage these four skills more than others? The answer is that they have the courage to innovate. They are willing to embrace a mission for change and take risks to make change happen. The bottom line is that to improve your ability to generate innovative ideas, you need to practice associational thinking and more frequently engage in questioning, observing,

FIGURE 1-1

The innovator's DNA model for generating innovative ideas



networking, and experimenting. That will likely only happen if you can somehow cultivate the courage to innovate.

As innovators actively engage in their discovery skills over a lifetime, they build discovery habits, and they become defined by them. They grow increasingly confident in their ability to discover what's next, and they believe deeply that generating creative insights is *their* job. It is not something to delegate to someone else. As A. G. Lafley declared, "innovation is the central job of every leader—business unit managers, functional leaders, and the CEO."[9]

The Innovator's DNA

We've just told you that the ability to be innovative is *not* based primarily on genetics. At the same time, we're using the DNA metaphor to describe the inner workings of innovators, which suggests that it is. Bear with us for a moment. (And welcome to the world of innovation, where the ability to synthesize two seemingly opposing ideas is the type of associating that produces novel

insights.) Recent developments in the field of gene therapy show that it is possible to modify and strengthen your physical DNA, for example, to help ward off diseases.[10] Likewise, it is metaphorically possible to strengthen your personal innovator's DNA. Let us provide an illustration.

Imagine that you have an identical twin, endowed with the same brains and natural talents that you have. You're both given one week to come up with a creative new business idea. During that week, you come up with ideas alone, just thinking in your room. By contrast, your twin (1) talks with ten people—including an engineer, a musician, a stay-at-home dad, and a designer—about the venture; (2) visits three innovative start-ups to observe what they do; (3) samples five "new to the market" products and takes them apart; (4) shows a prototype he's built to five people, and (5) asks "What if I tried this?" and "What would make this not work?" at least ten times each day during these networking, observing, and experimenting activities. Who do you bet will come up with the more innovative (and usable) idea? My guess is that you'd bet on your twin, and not because he has better natural (genetic) creative abilities. Of course, the anchor weight of genetics is still there, but it is not the dominant predictor. People can learn to more capably come up with innovative solutions to problems by acting in the way that your twin did.

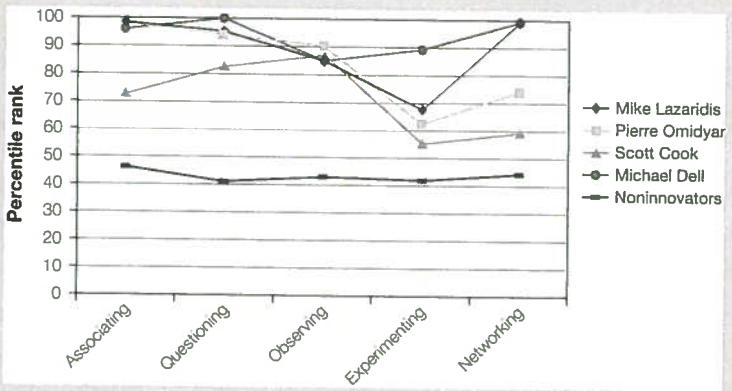
As figure 1-2 shows, innovative entrepreneurs rarely display across-the-board strength in observing, experimenting, and networking, and actually don't need to. All of the high-profile innovative entrepreneurs in our study scored above the seventieth percentile in associating and questioning. The innovators seemed to hold these two discovery skills more universally. But the innovators we studied didn't need world-class strength in the other behaviors. It certainly helped if they excelled at one of the four skills and were strong in at least two. If you hope to be a better

Discovery Skill Strengths Differ for Disruptive Innovators

To understand that innovative entrepreneurs develop and use different skills, look at figure 1-2. It shows the percentile rank scores on each of the five discovery skills for four well-known founders and innovators: Pierre Omidyar (eBay), Michael Dell (Dell), Michael Lazaridis (Research In Motion), and Scott Cook (Intuit). The percentile rank indicates the percentage of over five thousand executives and innovators in our database who scored lower on that particular skill. A particular skill is measured by the frequency and intensity with which these individuals engage in activities that compose the skill.

FIGURE 1-2

High-profile innovators' discovery skills profile



As you can see, the pattern for each innovative entrepreneur is different. For example, Omidyar is much more likely to acquire his ideas through questioning (ninety-fifty percentile) and

(continued)

observing (eighty-seventh percentile), Dell through experimenting (ninetieth percentile) and networking (ninety-eighth percentile), Cook through observing (eighty-eighth percentile) and questioning (eighty-third percentile), and Lazaridis through questioning (ninety-sixth percentile) and networking (ninety-eighth percentile). The point is that each of these innovative entrepreneurs did not score high on *all* five of the discovery skills. They each combined the discovery skills *uniquely* to forge new insights. Just as each person's physical DNA is unique, an innovator's DNA comprises a unique combination of skills and behaviors.

innovator, you will need to figure out which of these skills you can improve and which can be distinguishing skills to help you generate innovative ideas.

Delivery Skills: Why Most Senior Executives Don't Think Different

We've spent the past eight years interviewing scores of senior executives—mostly at large companies—asking them to describe the most novel and valuable strategic insights that they had generated during their careers. Somewhat surprisingly, we found that top executives rarely mentioned an innovative business idea that they had personally generated. They were extremely intelligent and talented individuals who were accomplished at delivering results, but they didn't have much direct, personal experience with generating innovative business ideas.

In contrast to innovators who seek to fundamentally change existing business models, products, or processes, most senior executives work hard to efficiently deliver the next thing that should be done *given* the existing business model. That is, they

I'm Not Steve Jobs . . . Is This Relevant?

OK, so you're not Steve Jobs. Or Jeff Bezos. Or any other famous business Innovator. But that doesn't mean you can't learn from these innovators. You *can* get better at innovating, even if most of your innovations are somewhat incremental in nature. We've seen it happen, and we've seen that it can make a difference. We've seen a pharmaceutical executive practice a questioning technique (see chapter 3) each day to identify key strategic issues facing his division. After three months, his boss told him that he'd become the most effective strategic thinker on his team. Within six months, he was promoted to a corporate strategic planning job. "I just improved my ability to ask questions," he told us. We've seen MBA students in our classes use the observing, networking, and experimenting techniques to generate entrepreneurial business ideas. One got the idea for launching a company that uses bacteria to eat pollution from networking with someone he met at a neighborhood barbeque. Another observed that the best English speakers in Brazil were people who watched American movies and television. So he launched a company that sells software that helps people learn English by watching movies. Many innovative ideas may seem small, such as a new process for effectively screening job recruits or a better way to build customer loyalty, but they are valuable new ideas nonetheless. And if you come up with enough of them, they will definitely help you advance in your career. The point is this: you don't have to be Steve Jobs to generate innovative ideas for your business.

work inside the box. They shine at converting a vision or goal into the specific tasks to achieve the defined goal. They organize work and conscientiously execute logical, detailed, data-driven plans of action. In short, most executives excel at execution, including the

following four delivery skills: *analyzing, planning, detail-oriented implementing,* and *disciplined executing.* (We'll say more about these skills later in the chapter and in chapter 8, but for now we need only note that they are critical for delivering results and translating an innovative idea into reality.)

Many innovators realize that they are deficient in these critical skills and, consequently, try to team up with others who possess them. For example, eBay founder Omidyar quickly recognized the need for execution skills, so he invited Jeff Skoll, a Stanford MBA, and Meg Whitman, a Harvard MBA, to join him. "Jeff Skoll and I had very complementary skills," Omidyar told us. "I'd say I did more of the creative work developing the product and solving problems around the product, while Jeff was involved in the more analytical and practical side of things. He was the one who would listen to an idea of mine and then say, 'Ok, let's figure out how to get this done.'" Skoll and Whitman professionalized the eBay Web site, added fixed-price auctions, drove international expansion, developed new categories such as autos, and integrated important capabilities such as PayPal.

Why do most senior executives excel in the delivery skills, but are only above average in discovery skills? It is vital to understand that the skills critical to an organization's success vary systematically throughout the business life cycle. (See figure 1-4). For example, in the start-up phase of an innovative venture, the founders are obviously more discovery-driven and entrepreneurial. Discovery skills are crucial early in the business life cycle because the company's key task is to generate new business ideas worth pursuing. Thus, discovery (exploration) skills are highly valued at this stage and delivery (execution) skills are secondary. However, once innovative entrepreneurs come up with a promising new business idea and then shape that idea into a bona fide business opportunity, the company begins to grow and then must pay attention to building the processes necessary to scale the idea.

The Discovery and Delivery Skills Matrix: How Innovators Stack Up

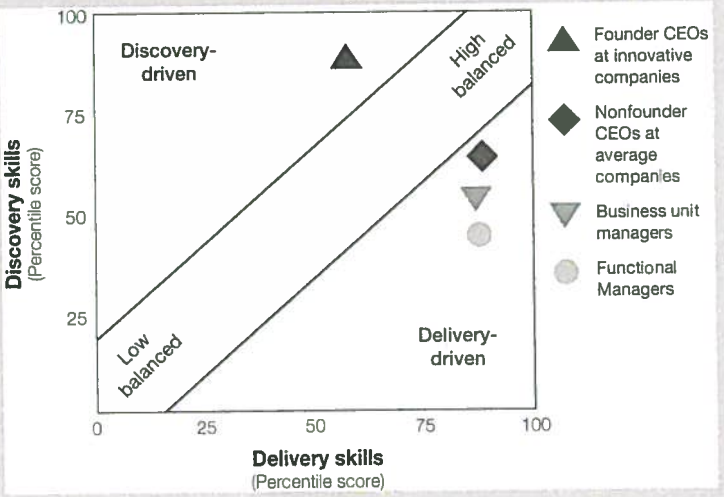
To test the assertion that innovative executives have a different set of skills than typical executives, we used our innovator's DNA assessment to measure the percentile rank of a sample of high-profile innovative entrepreneurs (founder CEOs of companies on *BusinessWeek*'s list of the top one hundred most innovative companies) on both the five discovery skills (associating, questioning, observing, networking, experimenting) and the four delivery or execution skills: analyzing, planning, detail-oriented implementing, and self-disciplined executing. We averaged their percentile rank scores across the five discovery skills to get an overall percentile rank, and then did the same thing across the four delivery skills to get an overall percentile rank. We refer to the overall percentile rank across the five discovery skills as the "discovery quotient" or DQ. While intellectual quotient (or IQ) tests are designed to measure general intelligence and emotional quotient (or EQ) assessments measure emotional intelligence (ability to identify, assess, and control the emotions of ourselves and others), discovery quotient (DQ) is designed to measure our ability to discover ideas for new ventures, products, and processes.

Figure 1-3 shows that the high-profile innovative entrepreneurs scored in the eighty-eighth percentile on discovery skills, but only scored in the fifty-sixth percentile on delivery skills. In short, they were just average at execution. We then conducted the same analysis for a sample of nonfounder CEOs (executives who had never started a new business). We found that most senior executives in large organizations were the mirror image of innovative entrepreneurs: they scored around the eightieth percentile on delivery skills, while scoring only above average on

(continued)

FIGURE 1-3

Discovery-delivery skills matrix

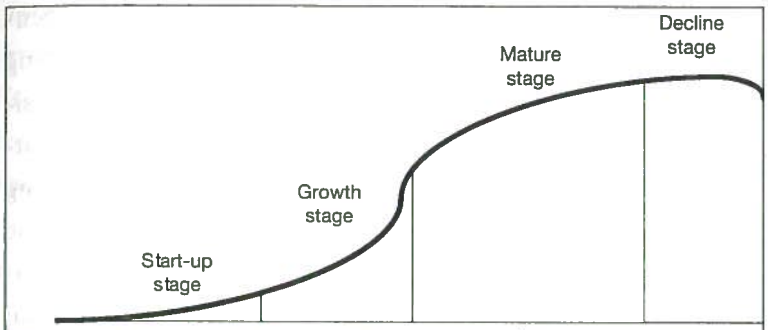


discovery skills (sixty-second percentile). In short, they are selected primarily for their execution skills. This focus on execution is even more pronounced in business unit managers and functional managers, who are worse at discovery than typical CEOs. This data shows that innovative organizations are led by individuals with a very high DQ. It also shows that even within an average organization, discovery skills tend to distinguish those who make it to the highest levels of the organization. So if you want to move up, you'd better learn how to innovate.

During the growth stage, the innovative entrepreneur may well leave the company, either because she has no interest in scaling the idea (which involves boring and routine work, at least to her) or because she does not have the skills to manage effectively in a large organization. Innovative entrepreneurs are often

FIGURE 1-4

The business and executive skill life cycles



	Start-up stage	Growth stage	Mature stage	Decline stage
Organization imperative	• Develop and launch new business idea	• Scale the new business idea • Build processes to execute consistently and systematically	• Exploit resources and capabilities generated during growth stage.	• Harvest, find, or develop other new business ideas
Organization primarily rewards	Discovery skills	Delivery skills	Delivery skills	Delivery skills still dominate but discovery skills increase in importance
Organization secondarily rewards	Delivery skills	Discovery skills	Discovery skills	

described as poor managers because they lack the ability to follow through on their new business ideas and are often irrationally overconfident in them. Moreover, they are more likely to make decisions based on hunches and personal biases rather than data-driven analysis.[11] Not surprisingly, the conventional prescription for these problems is to replace the entrepreneurs with professional managers—individuals with proven skills at delivering results. At this point in the business life cycle, professional managers who are better equipped to scale the business often replace the entrepreneur founders. When such replacement occurs, however, *key discovery skills walk away from the top management team.*

With the founder entrepreneur out of the picture, the ensuing growth and maturation stage of the business life cycle begins. In these stages, managers generally make it to the top of the management pyramid through great execution. This may involve generating incremental (sustaining) innovations for existing customers, but the focus is on execution, not building new businesses. Surprisingly few companies in this stage pay systematic attention to the selection or promotion of people with strong discovery skills. As this happens, the lack of discovery skills at the top becomes even more glaring, but it is still not necessarily obvious. (Contrast these common practices with those of Amazon founder Bezos, who systematically asks any new hire, including senior executives, to "tell me about something that you have invented." Bezos wants to hire people with an inventive attitude—in other words, people like himself.)

Eventually, for most organizations, the initial innovations that created the business in the first place complete their life cycle. Growth stalls as the business hits the downward inflection point in the well-known S curve. These mature and declining organizations are typically dominated by executives with excellent delivery skills. Meanwhile, investors demand new growth businesses, but senior executive teams can't seem to find them because the management ranks are dominated by folks with strong delivery skills. With discovery skills largely absent from the top management team, it becomes increasingly difficult to find new business opportunities to fuel new company growth. The company once again starts to see the imperative for discovery skills.

In sharp contrast, when entrepreneur founders stay through the growth stage, the company significantly outperforms its peers in growth and profitability.[12] An entrepreneurial founder is far more likely to surround herself with executives who are good at discovery, or who at least understand discovery. Could Apple have built new businesses in music (iTunes and iPod) and phones

(iPhone) on top of an older computer business without the return of Jobs? We doubt it.

The key point here is that large companies typically fail at disruptive innovation because the top management team is dominated by individuals who have been selected for delivery skills, not discovery skills. As a result, most executives at large organizations don't know how to think different. It isn't something that they learn within their company, and it certainly isn't something they are taught in business school. Business schools teach people how to be deliverers, not discoverers.

For a moment, consider your company's track record of rewarding and promoting discovery skills. Does your company actively screen for people who have strong discovery skills? Does your company regularly reward discovery skills through annual performance assessments? If the answers are no, then it is likely that a severe discovery skill deficit exists at the top ranks of management in your company.

You Can Learn to Think Different

In this chapter, we've tried to convince you that creativity is not a just a genetic predisposition; it is an active endeavor. Apple's slogan "Think Different" is inspiring but incomplete. Innovators must consistently act different to think different. We acknowledge that genetics are at work within innovators, and that some have superior natural ability at associational thinking. However, *even if two individuals have the same genetic creative ability, one will be more successful at creative problem solving if he or she more frequently engages in the discovery skills we have identified.* By understanding—and engaging in—the five discovery skills, we believe that you can find ways to more successfully develop the creative spark within yourself and others. Read on as we describe how to master the five discovery skills in order to become a more innovative thinker.

Discovery and Delivery Skills Quiz: What's Your Profile?

To get a quick snapshot of your discovery-delivery skills profile, take the following self-assessment survey (1 = strongly disagree; 2 = somewhat disagree; 3 = neither agree nor disagree; 4 = somewhat agree; 5 = strongly agree). Remember to answer based on your actual behaviors, not what you would like to do.

1. Frequently, my ideas or perspectives diverge radically from others' perspectives.
2. I am very careful to avoid making any mistakes in my work.
3. I regularly ask questions that challenge the status quo.
4. I am extremely well organized at work.
5. New ideas often come to me when I am directly observing how people interact with products and services.
6. I must have everything finished "just right" when completing a work assignment.
7. I often find solutions to problems by drawing on solutions or ideas developed in other industries, fields, or disciplines.
8. I never jump into new projects and ventures and act quickly without carefully thinking through all of the issues.
9. I frequently experiment to create new ways of doing things.
10. I always follow through to complete a task, no matter what the obstacles.
11. I regularly talk with a diverse set of people (e.g., from different business functions, organizations, industries, geographies, etc.) to find and refine new ideas.

12. I excel at breaking down a goal or plan into the micro tasks required to achieve it.
13. I attend conferences (on my areas of expertise as well as unrelated areas) to meet new people and understand what issues are facing them.
14. I pay careful attention to details at work to ensure that nothing is overlooked.
15. I actively seek to identify emerging trends by reading books, articles, magazines, blogs, and so on.
16. I hold myself and others strictly accountable for getting results.
17. I frequently ask "what if" questions that provoke exploration of new possibilities and frontiers.
18. I consistently follow through on all commitments and finish what I've started.
19. I regularly observe the activities of customers, suppliers, or other organizations to get new ideas.
20. I consistently create detailed plans to get work done.

To score your survey:

Add your score on the odd-numbered items. You score very high on discovery skills if your total score is 45 or above, high on discovery if your score is 40–45, moderate to high on discovery if your score is between 35 and 40, moderate to low if you score 29–34; you score low on discovery if your score is 28 or less.

Add your score on the even-numbered items. You score very high on delivery skills if your total score is 45 or above, high on delivery if your score is 40–45, moderate to high on delivery if your score is between 35 and 40, moderate to low

(continued)

if you score 29–34; you score low on delivery if your score is 28 or less.

We have drawn this short survey from a more systematic seventy-item assessment (either a self-assessment or a 360-degree assessment) that we have developed to assess an individual's discovery skills and delivery skills. You can do this assessment through our Web site at http://www.InnovatorsDNA.com. Should you decide to complete an assessment, you will receive a *development guide* to walk you through your results and help you design a skill development plan. Your assessment will provide you with your DQ and percentile data for each discovery and delivery skill to compare your scores with the over five thousand executives and innovators in our dataset.