There isn’t a sport on the planet that delivers less adrenaline per unit of time than golf. For years, that simple fact kept me off the links. When compared to hurling oneself down a black diamond ski run or diving on a wreck, the idea of spending the better part of a day struggling to propel a small round object toward a pint-sized hole with a device ill-suited to the task, seemed to me both pointless and effete.

Yet there I was a few months back, hacking my way around two of the most extravagantly beautiful golf courses on the planet. Kauri Cliffs and Cape Kidnappers, on New Zealand’s North Island, offer staggering views across the Pacific. And soon I’m off to join a few of my English friends for week-long golf orgy on Canada’s Prince Edward Island, where the violent slash of my golf swing will once again be the subject of amusement and ridicule: “Next time, see if you can slow it down to a blur.”
My journey from sneering skeptic to helpless addict began a dozen years ago when I set out to write a cover story for *Fortune* on the Internet. In the process, I visited eBay’s nascent website and more or less randomly entered a bid for a set of golf clubs. I was confident my lowball offer would get bested, so I didn’t bother to check back in on the auction. A few days later, I walked into my office and discovered an elongated box propped up in one corner. “Oh crap,” I said, as a shiny set of Callaway irons tumbled out of the packaging. Nevertheless, within a few days I was down at the Stanford University driving range with a 7-iron in my hand and a bucket of balls at my feet. My first swing slammed into the ground a foot behind the ball. Another hideous spasm sent the golf ball whizzing sideways, provoking startled stares from my fellow range rats. “Jeepers,” I thought, “this is hard.” And then, ten or twenty lunges later, I connected—and with a whizzing sound sweeter than the air intake on a Ferrari Italia, the little white orb started to soar. Up it went, suspended in the sparkling autumn sky. And then, 150 yards downrange, it returned to earth, bouncing softly on the grass.

Gee whiz. I had just hit a ball farther than an A-Rod home run! In that first euphoric moment, I had no idea I had just inhaled a drug more powerful than crack. Like all addicts, my craving has cost me dearly. Green fees, new clubs every 18 months or so, coaches, training aids, and trips to exotic golfing locales.

The golf swing has been called “the most difficult move in sports”—a label that does little to lessen one’s sense of inadequacy. To send your ball rocketing precisely toward its intended destination, you must think of nothing but the target, while resisting the temptation to actually look at the target; you must keep your arms and hands relaxed, while torquing your torso like a rubber band; and you must accelerate the club head from a standstill to more than ninety miles an hour in less than a second, while resisting the temptation to “swing hard.” And yet, with a bit of application, a middle-aged boomer with virtually no athletic ability can become a respectable golfer. And once or twice a round, that diligent amateur will hit a golf shot that is the equal of anything you’re likely to see on the PGA Tour. This fact brings me neatly to my point: Despite the old adage that says otherwise, gray-haired dogs really can learn tricky new tricks.
That’s why I’m optimistic that your company can dramatically improve its innovation performance. Over the years, my colleagues and I have demonstrated again and again that with the right tools and training, you can turn “ordinary” employees into extraordinary innovators.

Progressive CEOs increasingly understand that innovation is a company’s lifeblood, but not many CEOs have put every employee through an intensive training program aimed at boosting their innovation skills. Sure, companies have electronic suggestion boxes, slush funds for new ideas, pipeline management tools, and innovation awards—but in the absence of a cadre of well-trained and highly skilled innovators, much of the investment in these innovation enablers will be wasted.

Imagine that you’ve coaxed a keen but woefully inexperienced golfer onto the first tee at Pebble Beach. After arming the novice with the latest titanium driver, you challenge him or her to split the fairway with a monster drive. You offer a $100 bonus for every drive that stays out of the rough, and another $100 for every hole where the ball goes down in par. But what you don’t do is this: you don’t give your apprentice any instruction—no books, no tips from Dave Pelz or David Ledbetter, and no video feedback. Neither do you set aside any time for practice. Given this scenario, how many 200-yard drives will your neophyte land in the fairway? How long will he or she persevere with the sport? And what kind of return will you get on the $2,000 you shelled out for a bag full of high-tech clubs and Pebble’s eye-watering green fee? The answers: not many, not long, and not much. And no one who knows anything about golf would ever do anything so stupid.

That’s why I’m dumbfounded by the fact that so few companies have invested in the innovation skills of their frontline employees. The least charitable explanation for this oversight is that senior managers subscribe to a sort of innovation apartheid. They believe that a few fortunate souls are genetically equipped to be creative, while most everyone else is a lunkhead, unable to come up with anything more exciting than suggestions for incremental improvement.

Having said this, I understand how a CEO might come to such a conclusion. Every day senior executives get bombarded with new ideas, and most of them are either woefully underdeveloped or downright batty. After a while, it’s easy to believe that all those dopey ideas
must be coming from dopes, rather than from individuals who’ve never
had the chance to hone their innovation skills.

This disappointment is typically multiplied when a company sets
up its first “idea market.” Executives quickly discover that most of the
proffered ideas fall into one of two buckets: incremental no-brainers or
flaky no-hopers.

When I try to convince a CEO to invest in systematic innovation
training, I often get the following reaction: “I don’t know why we’d do
that, we have too many ideas already. We can’t begin to fund them all.”
“But,” I ask, “how many of those ideas are radical and practical, potential
gamechangers that are actually feasible?” “Oh,” most executives reply,
“we don’t have many of those.” And that’s the problem. Although
innovation is a numbers game, where quantity matters, so, too, does
quality, and to improve the quality of an organization’s innovation
pipeline, you have to improve the quality of its innovation thinking.

THE PERCEPTUAL HABITS OF SUCCESSFUL
INNOVATORS

Obviously, you can’t teach someone to be an innovator unless you
know where game-changing ideas come from. You need a theory of
innovation—like Ben Hogan’s theory of the golf swing. ¹ This is why, a
few years back, I led a project that analyzed more than a hundred cases of
business innovation. Our goal: to understand why some individuals see
opportunities that others miss. Here, in a pistachio-sized shell, is what
we learned. Successful innovators have ways of looking at the world that
throw new opportunities into sharp relief. They have developed, often
by accident, a set of perceptual habits that allow them to pierce the fog
of “what is” and catch a glimpse of “what could be.” How do they do
this? By paying attention to four things that usually go unexamined.

Unchallenged Orthodoxies

To be an innovator you have to challenge the beliefs that everyone
else takes for granted—the long-held assumptions that blind industry
incumbents to new ways of doing business.
Within any industry, mental models tend to converge over time. Executives read the same trade magazines, go to the same conferences and talk to the same consultants. As the years pass, the intellectual gene pool becomes a stagnant pond.

Success accelerates this process. Effective strategies get translated into operating policies, which spawn best practices, which harden into habits. Inevitably, fossilized strategies create opportunities for less orthodox competitors to upend industry rules. One such insurgent is Salesforce.com, a leading vendor of customer management software and an early advocate of the “software-as-a-service” business model. Traditionally, enterprise customers licensed software programs and installed them on their own servers, and then paid an annual fee for upgrades and maintenance. The Salesforce.com model changed that. Its software runs in the cloud and customers pay a monthly usage fee, a delivery model that reduces costs and increases flexibility.

Innovators are natural contrarians (“What box?”), and with a little practice, anyone can learn how to uncover and challenge long-static beliefs. Here are a couple of questions you can use to arouse the contrarian instincts of your team: First, in what respects is our business model indistinguishable from that of our competitors? To what extent is our value proposition, service bundle, pricing, customer support, distribution, or supply chain undifferentiated? And second, what aspects of our business model have remained unchanged over the past 3–5 years? Whenever you identify a convergent belief, ask, does this rest on some inviolable law of physics, or is it simply an artifact of our devotion to precedent? By working systematically to surface these invisible dogmas, you can turn reactionaries into rebels.

**Underappreciated Trends**

Innovators pay close attention to emerging trends, to the nascent discontinuities that have the potential to reinvigorate old businesses or create new ones.

In my experience, innovators don’t waste a lot of time speculating about what might change; they’re not big on scenario planning.
On the other hand, they pay a lot of attention to the little things that are *already* changing, but have gone unnoticed or discounted by industry stalwarts. Innovators are constantly on the lookout for emerging discontinuities—in technology, regulation, lifestyle, values, and geopolitics—that could be harnessed to overturn old industry structures. What this requires is not so much a crystal ball as a wide-angle lens. You have to learn in places your competitors aren’t even looking. Building a strategy that leverages an emerging but powerful trend which your competitors barely perceive can give a company a big jump on the future.

An example: For more than a decade it’s been obvious that a big shift is coming in how individuals consume video media. Today, in most countries, people get their video programming from cable or satellite television providers. These companies bundle up hundreds of channels and then charge viewers a hefty monthly fee for the total package. Problem is, most of us watch only a fraction of the available channels, yet pay for all of them. What’s been obvious to some—like the folks at YouTube, Roku, Vudu, Hulu, Netflix, and AppleTV—is that this model is grossly inefficient and ripe for change. One omen: in the recent recession, fifty percent of American consumers got in touch with their TV company in a bid to lower their monthly subscription costs.²

Behind this potential sea change are two enabling discontinuities: Ever-fatter broadband “pipes” and ever-better technology for delivering full-motion video over the Web. It’s notable that the traditional distributors of television content are not, for the most part, the ones most vigorously exploiting these trends. Their lassitude has opened the door for a gaggle of new, web-centric, competitors. In a world of head-snapping change, a company that fails to exploit a discontinuity, or dithers because it might imperil a beloved business model, will end up as the disruptee rather than the disrupter.

So how do you help people uncover the harbingers of change? By getting them out on the fringe where they can have a first-person encounter with the future. This might mean taking a Korean marketing team to Silicon Valley, getting a bunch of Finnish engineers to marinate in Tokyo’s club scene, or asking some savvy teenagers to run a social media training session for a group of senior brand managers.
In my experience, there are five questions that can help a team to zero in on potentially important discontinuities. First, as you think about culture, politics, technology, and so on, what are the things you’ve read, seen, or experienced in recent months that have been surprising, perplexing, or disconcerting? Second, which of these anomalies seem to have some momentum behind them? When you look across the world, or back over the last few months, do you see these trends expanding in scope or accelerating? Are they blooming if not yet booming? Third, if you “run the movie forward,” how might these discontinuities play out? What are the chain reactions that might be set in motion? Fourth, which of these discontinuities aren’t yet topics of conversation within your industry? Which ones were missing from the agenda of the last industry confab you attended? And then fifth, how might we exploit these discontinuities in ways that would wrong-foot our competitors? By coaching individuals through these questions in disciplined way, and creating opportunities for them to dig deep, you can strengthen their ability to spot the next wave and ride it.

**Underleveraged Competencies and Assets**

Every company is a bundle of skills and assets. Typically these things are embedded in legacy business models, but if repurposed, they can often serve as platforms for innovation and growth.

Innovation gets stymied when a company defines itself by what it does rather than by what it knows or owns—when its self-conception is built around products and technologies rather than around core competencies and strategic assets. To innovate, you need to see your organization and the world around it as a portfolio of skills and assets that can be endlessly recombined into new products and businesses.

Disney has frequently demonstrated a talent for redeploying its competencies in new ways. Examples include the company’s highly successful theatrical division (which produces live shows like *The Lion King*), and its cruise ship line. One of the company’s recent ventures is Disney English, a business that employs a specially trained staff to deliver English-language training to Chinese youngsters, aided, of course, by a
menagerie of Disney characters. Launched in 2008, the business now has learning centers in seven Chinese cities. Andrew Sugarman, the general manager of Disney English, believes the Chinese market for English education will grow at nearly 30 percent over the next several years. When viewed from the perspective of theme parks or animated films, Disney English may seem an odd fit. But if you start with Disney’s core competencies (which includes recruiting peppy staff and developing kid-centric content), and fold in some of its strategic assets (like a roster of beloved cartoon characters), the business suddenly makes sense. Add to that a powerful discontinuity—the rapid growth of the Chinese middle class, who share a belief that English is a “get ahead” skill—and you’ve got the foundations for a compelling new business.

Here again, there are questions that can help your team to uncover the hidden wealth within your organization: As a starter, you might ask, what are the skills and assets we have that are (a) relatively unique and (b) important in creating customer value? Second, where else might these skills and assets add value? How could they be used as gamechangers in other industries? It’s this sort of thinking that recently led Procter & Gamble to stamp its Tide brand on a small chain of dry-cleaning outlets. While still an experiment, this venture represents a logical extension of a venerable P&G brand to a highly fragmented industry. The question about how to leverage one’s strategic resource can also be asked in reverse: if Google, Facebook, Amazon, Virgin, or some other highly admired company was intent on reinventing your industry, how would they use their competencies and assets to do so, and what could you gain by partnering with them? As individuals learn to see their company and others from this perspective, the opportunities for innovation will multiply.

**Unarticulated Needs**

Serial innovators are good at spotting the inconveniences, encumbrances, and vexations that customers have come to take for granted, and that industry veterans mostly ignore.

The goal with innovation is to amaze customers with something they never could have imagined, but having once experienced it, can’t
imagine living without. What falls into that category for you? My list would include digital video recorders (thanks, TiVo), online restaurant reservations (way to go, OpenTable), free international video conferencing (gracias, Skype), and customized Internet radio (bravo, Pandora).

To amaze customers with the unexpected, you must first uncover their unspoken needs. Customers have their own orthodoxies; like the rest of us, they are prisoners of the familiar. So asking them what they want seldom yields fundamentally new insights. Instead, you have to observe them, up close and over time, and then reflect on what you’ve learned: Where are we wasting our customers’ time? Where are we making things overly complex? Where are we treating customers like numbers instead of people? Where are we forcing them to solve problems we should solve for them?

In my experience, two skills are essential to excavating unarticulated needs, and with a bit of practice, just about anyone can strengthen these aptitudes. The first skill is the ability to read the emotional state of customers as they interact with your company and its services or products. The good news is that most of us are pretty good at deciphering emotional clues. What people need, though, is an opportunity to get out in the field and witness those emotions firsthand, before they’re filtered and aggregated by market research specialists. Depending on your industry, you might have employees watch customers fill out online insurance forms, navigate the maze of a shopping center, struggle to program their car’s GPS, or file a report for a missing piece of airline baggage.

There’s a simple framework I often use as the foundation for this sort of “empathetic” thinking. On one axis I list the various stages of the “customer experience chain”:

*Discovering*: How does a customer become acquainted with our products or services? What prompts awareness and outreach?

*Learning*: How does a customer get smart about our products and those of our competitors? Where do they go to learn and compare?

*Buying*: How does a customer transact with our company? What are the dynamics of the purchasing process?

*Acquiring*: How does a customer take delivery of our product or service? What are the logistics of getting it from here to there?
Using: How does a customer use our product or service in his or her daily life? What do they have to do to take advantage of its benefits? What are the various components of the user experience?

Connecting: How does a customer interact with our company post-purchase? What are the interactions that promote loyalty and affection, or frustration and disenchantment?

And on the other axis I enumerate the various emotional states a customer may experience at each stage of the experience chain. I usually put them in a column down the left, with the positive states up top and negative ones below.

Positive Emotional States

I feel:
Valued
Informed
Involved
Amused
Empowered

Trusted
Respected
Confident
Engaged
At ease

Negative Emotional States

I feel:
Neglected
Misinformed
Ignored
Bored
Helpless

Mistrusted
Belittled
Confused
Alone
Anxious

You can number each cell, and then ask employees to “code” the particular emotional states they observe as they watch a customer work through each stage of the experience chain. Giving employees a simple tool where they can record both the emotions they witness and the circumstances that triggered those emotions can be a powerful way of bringing unarticulated needs to the surface. In this context, it can be useful to ask a customer what prompted a particular feeling—“Gee, you seem perplexed. What just happened?” Capturing real-time reactions can add a lot of nuance to one’s understanding of unmet needs.
Teaching people to be inquiring anthropologists is just the first step. What’s also needed are concrete ideas for reengineering the customer experience in ways that astonish and enthral. To generate those ideas, people must be trained to find and exploit analogies from other industries. You can ask, what does Disneyland, Singapore Airlines, Fandango, or Lexus do, for example, to engender great customer experiences, and how might those practices be applied in our industry? Innovation isn’t always about invention; often it’s about borrowing great ideas from other industries.

Again, there’s a simple exercise that can help a team to sharpen this skill. Get a group of colleagues or customers together and ask each person to identify a product or service that dramatically reshaped their expectations—something that made them go “Wow! How amazing!” The goal here, using the matrix described above, is to identify an experience that provoked a gusher of good feelings. Next, ask folks, what were the unique attributes of that experience that made it so memorable? How, exactly, did it defy their expectations? Answers might include: “It was unbelievably easy to use. They walked me through every step.” “It was amazingly fun. They made it a game.” Or, “It seemed so personal. Everyone remembered my name.” Having extracted the distinctive elements of each experience, you can ask, “How might we leverage this idea to redefine customer expectations in our own industry?”

For example, why shouldn’t a textbook manufacturer be able to develop an online algebra course that’s as engaging as the World of Warcraft? Why shouldn’t a supermarket treat its most profitable customers as well as an international airline does—maybe a dedicated checkout line and someone to load your groceries in your car? Why shouldn’t insurance agents make their commission fees public like real estate agents and stockbrokers do?

In building a theory of innovation, I talked to dozens of trailblazers. They weren’t all super-smart, or artistically inclined, or the product of an unconventional upbringing. But all of them had developed perceptual routines that helped them see beyond the ordinary—by turning industry dogma on its head, by amplifying weak signals, by exploiting competencies and assets, and by tuning in to customer emotions.
Through training and practice you can help your colleagues internalize these routines. It takes time, but it’s eminently doable. Whirlpool’s strong innovation performance in recent years owes much to the fact that the company trained more than 30,000 of its employees to be business innovators, and certified more than 1,000 of them as innovation “black belts.”

I can’t state the point strongly enough: the first and most important step for any organization intent on building a capacity for continuous, gamechanging innovation is to teach its people how to view the world around them with fresh eyes. Until your company steps up to this challenge, it will be filled with innovation duffers whose ideas rarely find the fairway.