The End of Rational Economics

- Dan Ariely

From the July–August 2009 Issue

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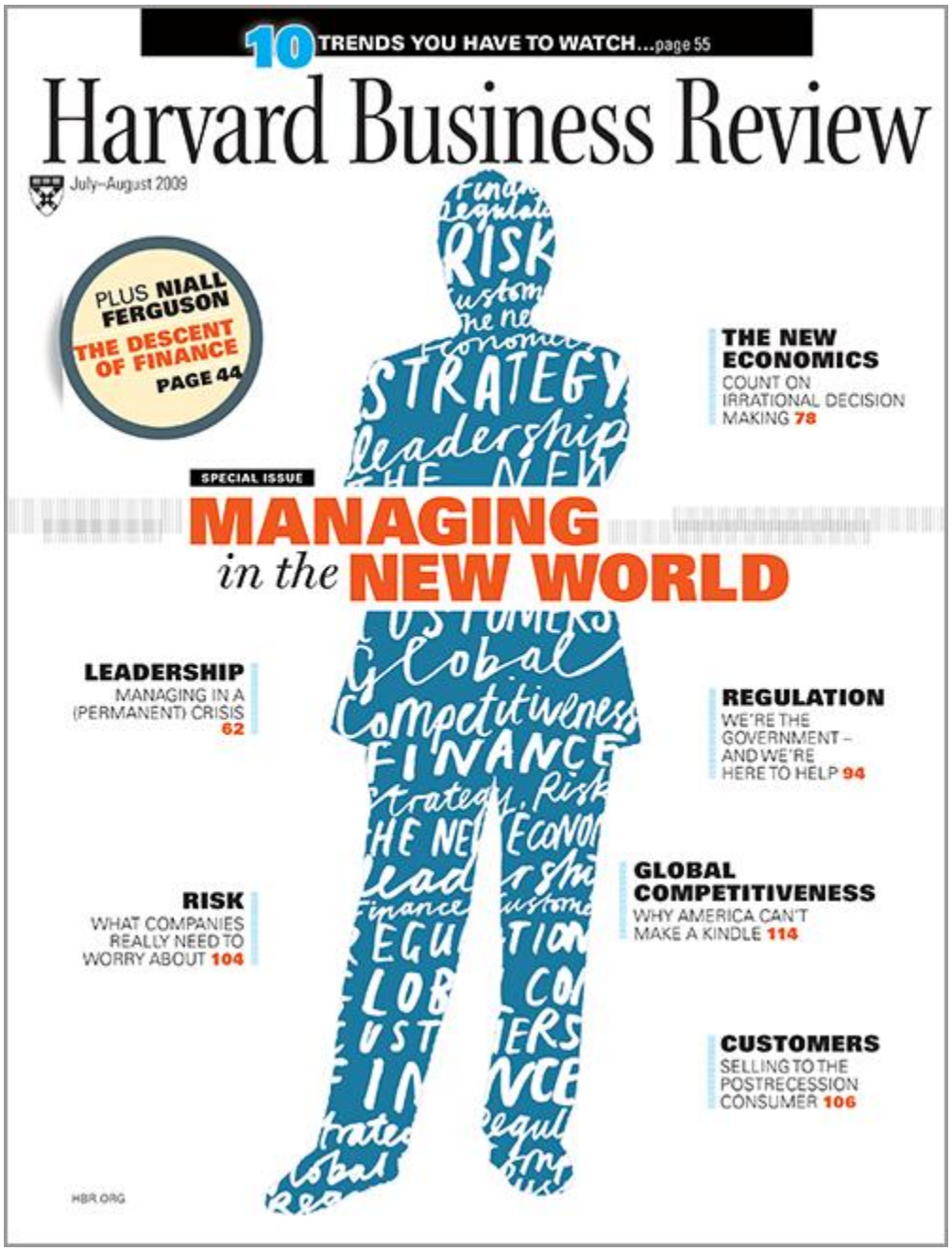

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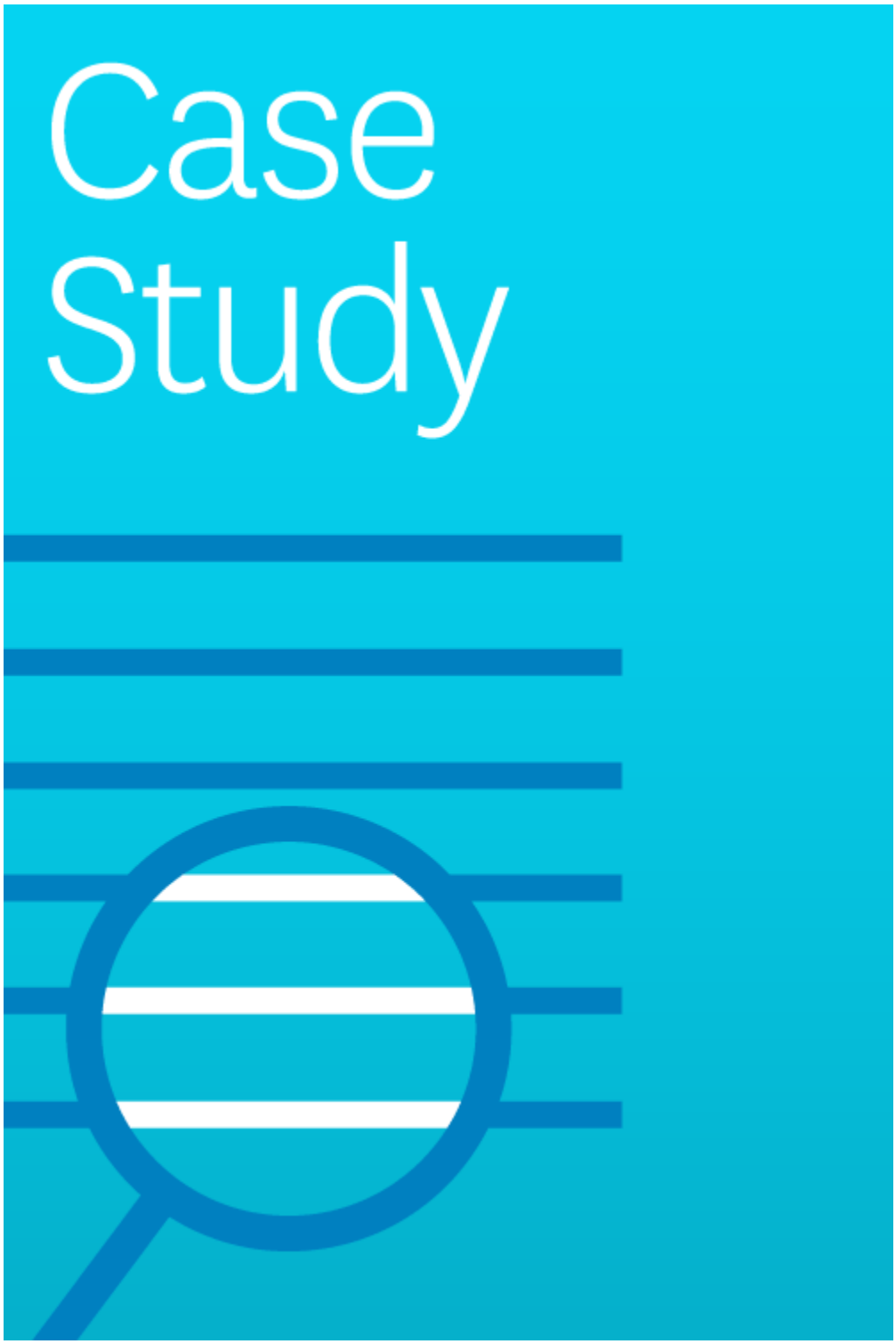

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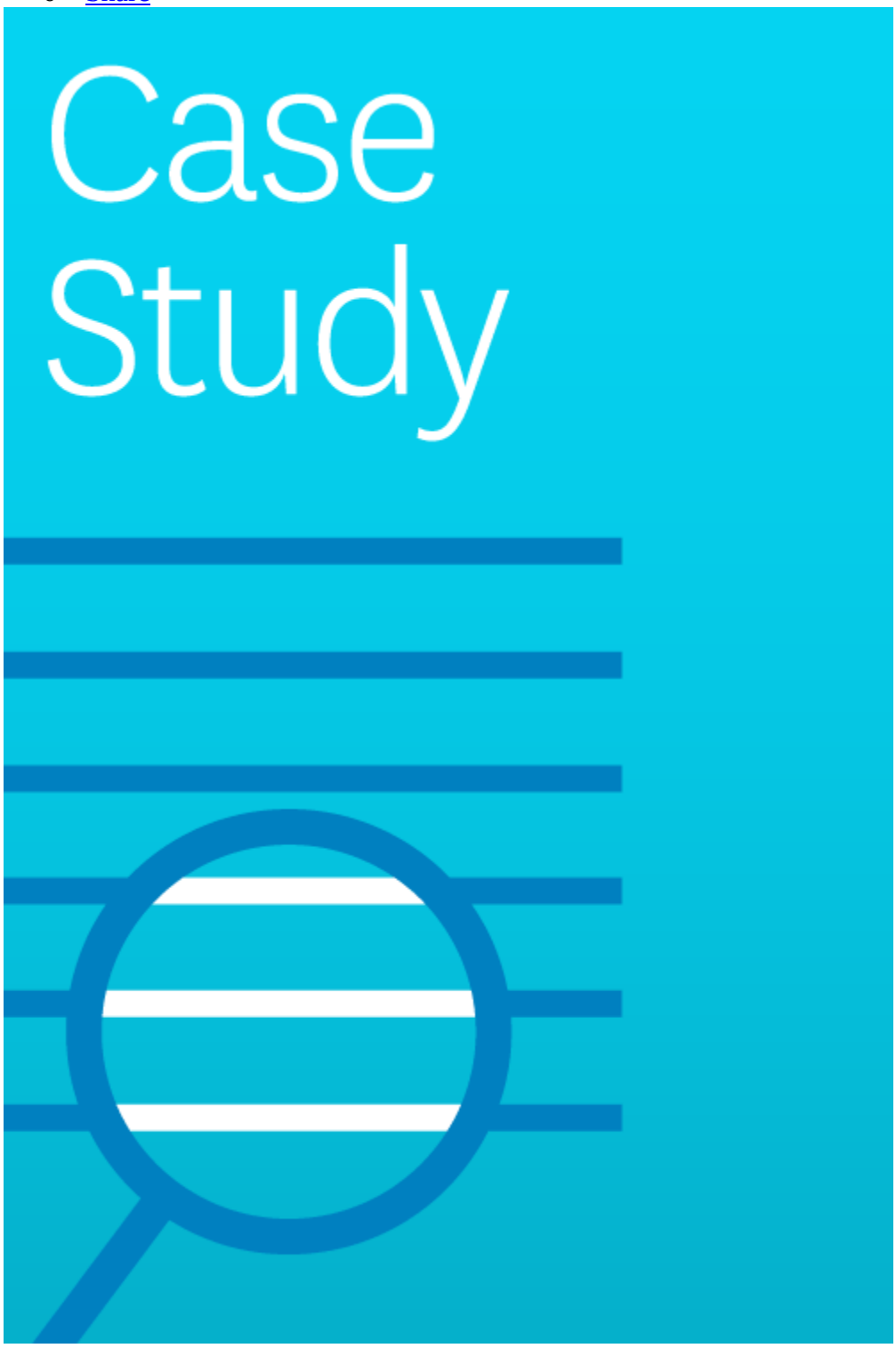

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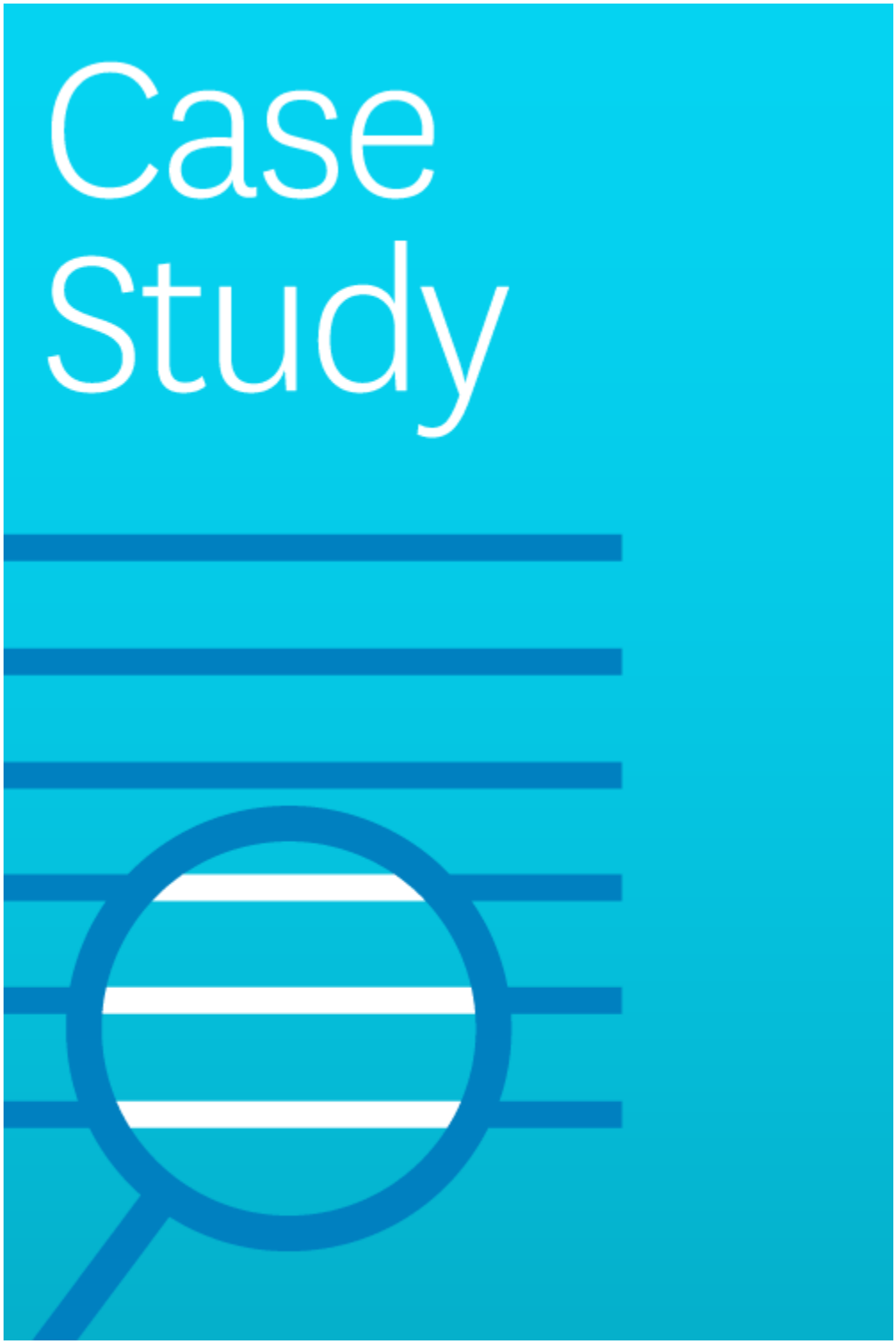

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In 2008, a massive earthquake reduced the financial world to rubble. Standing in the smoke and ash, Alan Greenspan, the former chairman of the U.S. Federal Reserve once hailed as "the greatest banker who ever lived," confessed to Congress that he was "shocked" that the markets did not operate according to his lifelong expectations. He had "made a mistake in presuming that the self-interest of organizations, specifically banks and others, was such that they were best capable of protecting their own shareholders."

We are now paying a terrible price for our unblinking faith in the power of the invisible hand. We're painfully blinking awake to the falsity of standard economic theory—that human beings are capable of always making rational decisions and that markets and institutions, in the aggregate, are healthily self-regulating. If assumptions about the way things are supposed to work have failed us in the hyperrational world of Wall Street, what damage have they done in other institutions and organizations that are also made up of fallible, less-than-logical people? And where do corporate managers, schooled in rational assumptions but who run messy, often unpredictable businesses, go from here?

We are finally beginning to understand that irrationality is the real invisible hand that drives human decision making. It's been a painful lesson, but the silver lining may be that companies now see how important it is to safeguard against bad assumptions. Armed with the knowledge that human beings are motivated by cognitive biases of which they are largely unaware (a true invisible hand if there ever was one), businesses can start to better defend against foolishness and waste.

The emerging field of behavioral economics offers a radically different view of how people and organizations operate. In this article I will examine a small set of long-held business assumptions through a behavioral economics lens. In doing so I hope to show not only that companies can do a better job of making their products and services more effective, their customers happier, and their employees more productive but that they can also avoid catastrophic mistakes.

Behavioral Economics 101

Drawing on aspects of both psychology and economics, the operating assumption of behavioral economics is that cognitive biases often prevent people from making rational decisions, despite their best efforts. (If humans were comic book characters, we'd be more closely related to Homer Simpson than to Superman.) Behavioral economics eschews the broad tenets of standard economics, long taught as guiding principles in business schools, and examines the real decisions people make—how much to spend on a cup of coffee, whether or not to save for retirement, deciding whether to cheat and by how much, whether to make healthy choices in diet or sex, and so on. For example, in one study where people were offered a choice of a fancy Lindt truffle for 15 cents and a Hershey's kiss for a penny, a large majority (73%) chose the truffle. But when we offered the same chocolates for one penny less each—the truffle for 14 cents and the kiss for

nothing—only 31% of participants selected it. The word "free," we discovered, is an immensely strong lure, one that can even turn us away from a better deal and toward the "free" one.

For the past few decades, behavioral economics has been largely considered a fringe discipline—a somewhat estranged little cousin of standard economics. Though practitioners of traditional economics reluctantly admitted that people may behave irrationally from time to time, they have tended to stick to their theoretical guns. They have argued that experiments conducted by behavioral economists and psychologists, albeit interesting, do not undercut rational models because they are carried out under controlled conditions and without the most important regulator of rational behavior: the large, competitive environment of the market. Then, in October 2008, Greenspan made his confession. Belief in the ultimate rationality of humans, organizations, and markets crumbled, and the attendant dangers to business and public policy were fully exposed.

Unlike the FDA, for example, which forces medical practitioners and pharmaceutical companies to test their assumptions before sending treatments into the marketplace, no entity requires business (and also the public sector) to get at the truth of things. Accordingly, it's up to firms to begin investigating basic beliefs about customers, employees, operations, and policies. When organizations acknowledge and anticipate irrational behavior, they can learn to offset it and avoid damaging results. Let's take a closer look at a few examples.

The Dark Side of Teamwork

A few years ago, my colleagues and I found that most individuals, operating on their own and given the opportunity, will cheat—but just a little bit, all the while indulging in rationalization that allows them to live with themselves. (See "How Honest People Cheat," HBR, February 2008.) We also found that the simple act of asking people to think of their ethical foundations—say, the Ten Commandments—or their own moral code before they had the opportunity to cheat eliminated the dishonesty.

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But what happens when people collaborate? Do autonomous teams make better, more ethical decisions? We decided to find out. In a series of three experiments, we gave participants 20 math problems to solve in five minutes and paid them 50 cents for each correct answer. In our first treatment (the control condition), individual participants were asked to write the number of problems they answered correctly on collection slips and give them to an experimenter, who checked the totals against the problem sheets. In a second treatment, participants shredded their answer sheets without verification and simply submitted their collection slips to the experimenter. Perhaps not surprisingly, we found these participants lied, saying that they'd correctly answered two more questions, on average, than those in the control treatment.

Things got more interesting in the third treatment, where participants worked in pairs and shared the spoils. The results showed that when a person realizes that his or her fudging would benefit other team members by increasing the payout, dishonesty further increased by 25%.

In another setup, we tried to discover whether monitoring and supervision would counteract team cheating. In fact, it did not. Though cheating decreased somewhat, it didn't disappear. More disturbingly, as the members of our experimental group became better acquainted, the tendency to cheat for the sake of the team increased even more. Other experiments revealed that if one person is clearly seen to be cheating, team members—particularly those who feel connected to the cheater—are likely to depart from their own moral compasses and increase their cheating. It seems that cheating is infectious.

These findings have serious implications for unsupervised collaborative work in organizations. Although work groups can have many social and functional advantages, they may also be more vulnerable to unethical conduct.

The Revenge Motive: When Customers Are Unhappy

Now let's look at customer behavior, an area that is particularly fraught with irrationality. It's a rare company that consistently makes its customers happy, though many nobly try. And well they should; too many firms fail to understand the price of customer unhappiness. Indeed, given the right circumstances, most of us are more than happy to seek revenge.

Ayalet Gneezy of the University of San Diego and I set out to discover if even low levels of annoyance would cause people to seek retribution. If so, we could assume that vengeful behavior in the real world of dropped calls, flight cancellations, and credit card penalties would be even greater.

Daniel, an actor who was our hired "agent," gave participants in a coffee shop several sheets of paper covered with letters and asked them to find matching pairs. Participants were promised $5 each for completing the task. On doing so, each signed a receipt and received a stack of $1 bills. Daniel "mistakenly" overpaid some of them by two, three, or four dollars.

In the "no annoyance" condition, Daniel explained the task and set the participants to it. In the "annoyance" condition, he pretended to answer his cell phone in the midst of giving instructions, talked for 15 seconds with a friend about pizza, hung up the phone, and then continued with the instructions without acknowledging or apologizing for taking the call. We wanted to discover whether the "annoyed" participants would exact revenge by keeping the extra money he gave them.

A mere 14% of those subjected to Daniel's rude treatment returned the additional money, compared with 45% of those in the other group. The fact that only 45% returned the extra cash was depressing enough, but it was striking that a 15-second phone call vastly decreased the likelihood that the participants would return the cash.

In another version of the experiment, we wanted to find out more about the impulse to punish. Would it make a difference whether Daniel claimed that he was working for someone else? Would participants punish the principal (the researchers behind the study) for the agent's misbehavior? Our results suggested that if people feel the need to take revenge, they don't differentiate between the two.

This is bad news for employers. If someone who works for you upsets a customer—even in ways unrelated to the job—you will very likely pay the price. Even the smallest transgression on the part of an employee can ignite the instinct for strong revenge against the employer, regardless of who is at fault.

What can company representatives or individuals do to soothe the instinct for revenge in business or personal exchanges? Apologies work, at least temporarily. In yet another version of our experiment, Daniel apologized for the phone call interruption. We were surprised to find that the show of regret was a perfect remedy. The percentage of people who returned the extra cash was the same in the "apology condition" as in the "no annoyance" condition. As it turns out the word "sorry" completely counteracted the annoyance. (Of course, the effectiveness of an apology is likely to diminish with the frequency of the annoyance.)

Revenge and cheating are only two of the irrational behaviors that underlie employees' and customers' decisions.

Revenge and cheating are only two of the irrational behaviors that companies will find underlying their employees' and customers' decisions and actions. Recognizing that, what is the way forward?

Experimenting with Behavior

Behavioral economics experiments that get to the bottom of people's decisions and actions are very different from the kinds of tests companies traditionally use to try out new product ideas and marketing concepts or to discover opportunities. The difference is not in the research methodology itself but in the process of selecting ideas to be tested.

The Trust Game

A group of Swiss researchers led by Ernst Fehr conducted an experiment now known as "the trust game with revenge" that reveals a lot about the motivation for vengeance. It goes something like this: You and an anonymous partner are each given $10, and you get to make the first move. You must decide whether to send your money over to your partner or keep it for yourself. If you keep it, each of you gets your $10 and the game is over. If you send it, the experimenters quadruple the amount to $40—so now your partner has $50.

The obvious question is: Why would you give away your $10 in the first place? The answer is that you hope you can trust your partner when he makes the next move. He can choose either to keep the $50—leaving you with nothing—or send $25 back to you, so that you share equally in the spoils.

If your partner is acting rationally and in his own best interest, he would never send you the $25. Knowing this, and acting equally rationally, you would never send him the money to start with. Ergo, you will do nothing and go home. The good news is that people are more trusting and reciprocating than standard economic theory would have us believe. In the experiment, many people gave away their $10, and many partners reciprocated by sending $25 back.

But the Swiss game didn't end there. If your partner chose to keep the $50, the experimenter would give you an opportunity in the next phase of the game to use some of your own money to punish him. For every dollar you spend, your greedy partner loses $2. So if you decided to spend $25, your partner would lose all his winnings. You might think that people who had just lost some money would be unwilling to lose even more just to "get their own back." Seated comfortably right now, you might not be able to appreciate these feelings, but most of the people who were given the opportunity exacted severe revenge on their greedy partners.

This finding was not the most interesting part of the study, however. While the participants were making their decisions, their brains were being scanned by positron emission tomography (PET). The experimenters saw activity in the striatum, the part of the brain associated with experiencing reward. In other words, the decision to punish the greedy partners appeared to be related to a feeling of pleasure. What's more, those who had a high level of striatum activation punished their partners to a greater degree. This suggests that the desire for revenge, even when it costs us something and is fully irrational (you have no idea who this other person is, and you will never meet him again), has biological underpinnings.

Read more

The standard business approach to experiments is similar to an engineering project. It makes strong assumptions about the laws that govern the behavior of the different actors; the only question is how to combine them in a way that makes sense for a particular application. (Companies that gather large amounts of transaction data are well ahead in this area. The casino giant Harrahs, for example, is famous for running experiments using customer data to develop a set of tailored services and offers.) A behavioral economics approach, in contrast, is more like a science project: We search simultaneously for the governing principles and how to implement them. Consider, for example:

Pricing.

I don't know whether Apple's executives were conducting a behavioral economics experiment when they introduced the iPhone at a price of $600 and then quickly discounted it to $400, but that move revealed something important about human behavior. By imprinting the price of $600 in people's minds, Apple was able to make consumers think that $400 was a real bargain. In a standard approach to price setting, the people running Apple's pricing group might have asked focus groups about various price points for the phone, and based on participants' feedback, picked the price they thought would maximize profits ($400). But if Apple had set the initial price at $400, consumers would have had no basis for comparison, since they'd never seen such a product before.

Adopting a behavioral economics perspective, Apple might have started by questioning the assumption that people would know how to value the pathbreaking product and so set up various pricing experiments. In this type of test, the goal is not simply to find out the optimal price but also to discover how people arrive at a decision to buy at that price. Companies also need to consider how the introductory price could influence the perception of value for a long time.

Product launches.

Behavioral economists might also look at the roles of habit and trust in consumer choice. Take a manufacturer who is planning to sell a triple-concentrated detergent, on the theory that environmentally conscious consumers would prefer to eliminate waste. Given shoppers' almost automatic impulse to reach for the same detergent, should the manufacturer package the concentrate in the standard-size bottle and charge more for it? Or should the manufacturer try to break consumers' force of habit and package the concentrate in a bottle one-third the size of the original? And what about trust? If consumers don't trust the manufacturer to deliver a more concentrated product, given that the product smells and looks the same as before, will they be willing to pay for it? How can the manufacturer overcome this hurdle?

Customers.

A variety of companies now use a behavioral economics approach to more closely examine customer and employee behavior. For example, one automobile insurer discovered that most people, when filling out forms that ask how many miles they've driven in a year, claimed that they drove less than they actually had. Building on the discovery that people are less inclined to cheat after being reminded of their own ethical standards, the company moved the signature line to the top of the form. Applicants who signed the form at the top reported driving an average of 2,700 more miles a year than those who signed at the end.

In another example, the cable giant Comcast began addressing the customer-revenge problem by using Twitter to respond to problems proactively. The director of digital care, Frank Eliason, discovered that by searching for the word "Comcast" (or, sometimes, "Comcrap"), he could locate unhappy customers who were simply venting to themselves and to their friends, and respond to their problems before they became formal complaints. (Other companies, including JetBlue, General Motors, Kodak, Dell, and Whole Foods Market are now also tracking customers' comments on Twitter.)

Building a Behavioral Economics Capability

Behavioral economics can be seen as depressing; after all, many of our experiments show human beings as incapable of making good decisions. Multiple findings demonstrate that we are emotional, myopic, and easily confused and distracted. Nevertheless, companies that make an investment in behavioral experimentation can radically improve decision making and lessen risk.

Firms interested in experimenting with behavior should understand that the process is time-consuming and delicate. All too often, companies set out to learn something about their customers' habits only to find that the way they devised their research was invalid and the conclusions incorrect. Smart organizations will develop a behavioral economics capability by hiring qualified experimenters and conducting small trials that build on each other.

Once the understanding of irrationality is embedded in the fabric of the organization, a behavioral economics approach can be applied to virtually every area of the business, from governance and employee relations to marketing and customer service. It is probably most useful

in the areas that we know the least about—such as the relationships between compensation and performance, risk and reward, loyalty and consumer habits, and pricing and purchasing behavior. As companies become more willing to question their assumptions, discover something about their stakeholders' predilections, and share the results of their learning, they will no doubt become a good deal wiser.