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THE POWER OF DESIGN



A tiny firm called **IDEO** redefined good design by creating experiences, not just products. Now it's changing the way companies innovate.

BY BRUCE NUSSBAUM

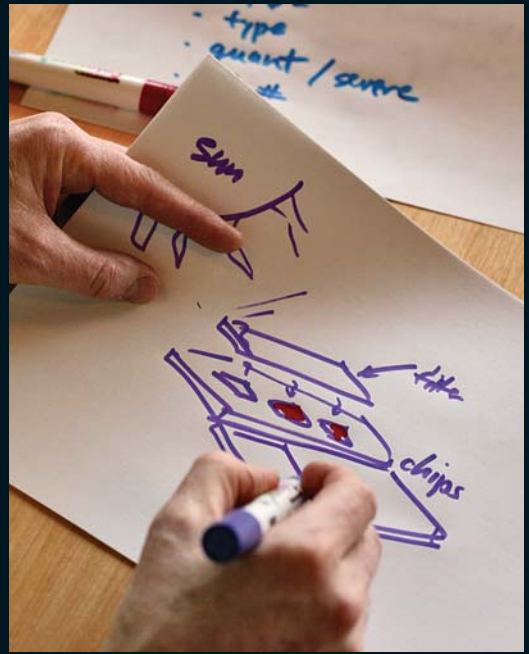


CEO Tim Brown (left)
Founder David Kelley

COVER STORY



THE POWER OF



PETER DASILVA (2)

MANAGED CHAOS IDEO's brainstorming sessions are wild, woolly—and fun. They can generate as many as 100 ideas in an hour

IDEO redefined good design by creating experiences, not just products. Now it's changing the way companies innovate

BY BRUCE NUSSBAUM

DESIGN

KAISER PERMANENTE, THE LARGEST health maintenance organization in the U.S., was developing a long-range growth plan in 2003 that would attract more patients and cut costs. Kaiser has hundreds of medical offices and hospitals and thought it might have to replace many of them with expensive next-generation buildings. It hired IDEO, the Palo Alto (Calif.) design firm, for help. Kaiser execs didn't know it then, but they were about to go on a fascinating journey of self-discovery. That's because of IDEO's novel approach. For starters, Kaiser nurses, doctors, and facilities managers teamed up with IDEO's social scientists, designers, architects, and engineers and observed patients as they made their way through their medical facilities. At times, they played the role of patient themselves.

Together they came up with some surprising insights. IDEO's architects revealed that patients and family often became annoyed well before seeing a doctor because checking in was a nightmare and waiting rooms were uncomfortable. They also showed that Kaiser's doctors and medical assistants sat too far apart. IDEO's cognitive psychologists pointed out that people, especially the young, the old, and immigrants, visit doctors with a parent or friend, but that second person is often not allowed to stay with the patient, leaving the afflicted alienated and anxious. IDEO's sociologists explained that patients hated Kaiser's examination rooms because they often had to wait alone for up to 20 minutes half-naked, with nothing to do, surrounded by threatening needles. IDEO and Kaiser concluded that the patient experience can be awful even when people leave treated and cured.

What to do? After just seven weeks with IDEO, Kaiser realized its long-range growth plan didn't require building lots of expensive new facilities. What it needed was to overhaul the patient experience. Kaiser learned from IDEO that seeking medical care is much like shopping—it is a social experience shared with others. So it needed to offer more comfortable waiting rooms and a lobby with clear instructions on where to go; larger exam rooms, with space for three or more people and curtains for privacy, to make patients comfortable; and special corridors for medical staffers to meet and increase their efficiency. "IDEO showed us that we are designing human experiences, not buildings," says Adam D. Nemer, medical operations services manager at Kaiser. "Its recommendations do not require big capital expenditures." With corporations increasingly desperate to get in

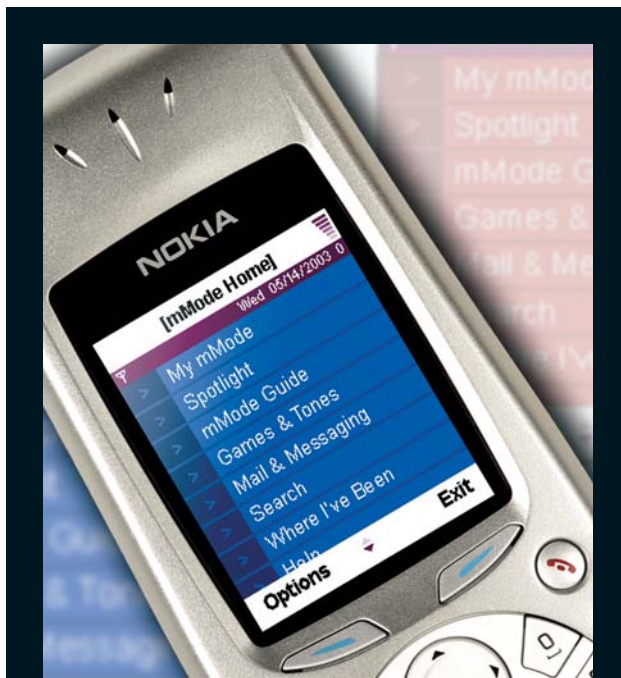
touch with their customers, IDEO's services are in growing demand. As the economy shifts from the economics of scale to the economics of choice and as mass markets fragment and brand loyalty disappears, it's more important than ever for corporations to improve the "consumer experience." Yet after decades of market research and focus groups, corporations realize that they still don't really know their consumers—or how best to connect with them.

Cool and Fast

ENTER IDEO. THE 350-PERSON design firm has offices not just in Palo Alto but also in San Francisco, Chicago, Boston, London, and Munich. Office-furniture maker Steelcase Inc. owns a majority stake in the firm, which operates as an independent unit. By design industry standards, IDEO is huge, though its \$62 million in revenues in 2003 are puny by most corporate measures. But IDEO's impact on the corporate world is far greater than the sum of its sales. It has a client list that spans the globe, including Hewlett-Packard, AT&T Wireless Services, Nestlé, Vodafone, Samsung, NASA, and the BBC. More than half of the firm's revenue comes from European and Asian clients or work done overseas by U.S. corporations.

IDEO began in 1991 as a merger between David Kelley Design, which created Apple Computer Inc.'s first mouse in 1982, and ID Two, which designed the first laptop computer in the same year. The Grid laptop is in the Museum of Modern Art in New York. Kelley went to Stanford University School of Engineering in the mid-'70s and met Steven P. Jobs. Jobs later introduced Kelley to the woman he married, Kc Branscomb, former senior vice-president at Lotus Development Corp. and CEO of IntelliCorp Inc. ID Two was run by Bill Moggridge, a well-known British interaction designer. Both founders still manage IDEO, along with CEO Tim Brown.

From its inception, IDEO has been a force in the world of design. It has designed hundreds of products and won more design awards over the past decade than any other firm. In the roaring '90s, IDEO was best known for designing user-friendly computers, PDAs, and other high-tech products such as the Palm V, Polaroid's I-Zone cameras, the Steelcase Leap Chair, and Zinio interactive magazine software. It also designed the first no-squeeze, stand-up toothpaste tube for Procter & Gamble Co.'s Crest and the Oral-B toothbrushes for kids. Now, IDEO is transferring its ability to create consumer products into designing consumer experiences in services, from shopping and banking to health care and wireless communication.



CELLULAR SANITY AT&T Wireless' mMode platform was too hard to use until IDEO helped make it click

THIS IS THE IDEO WAY

Five steps
in the
process of
designing
a better
consumer
experience



1. OBSERVATION

IDEO's cognitive psychologists, anthropologists, and sociologists team up with corporate clients to understand the consumer experience. Some of IDEO's techniques:

SHADOWING Observing people using products, shopping, going to hospitals, taking the train, using their cells phones.

BEHAVIORAL MAPPING Photographing people within a space, such as a hospital waiting room, over two or three days.

CONSUMER JOURNEY Keeping track of all the interactions a consumer has with a product, service, or space.

CAMERA JOURNALS Asking consumers to keep visual diaries of their activities and impressions relating to a product.

EXTREME USER INTERVIEWS Talking to people who really know—or know nothing—about a product or service, and evaluating their experience using it.

STORYTELLING Prompting people to tell personal stories about their consumer experiences.

UNFOCUS GROUPS Interviewing a diverse group of people: To explore ideas about sandals, IDEO gathered an artist, a bodybuilder, a podiatrist, and a shoe fetishist.

2. BRAINSTORMING

An intense, idea-generating session analyzing data gathered by observing people. Each lasts no more than an hour. Rules of brainstorming are strict and are stenciled on the walls:

DEFER JUDGMENT Don't dismiss any ideas.

BUILD ON THE IDEAS OF OTHERS No "buts," only "ands."

ENCOURAGE WILD IDEAS Embrace the most out-of-the-box notions because they can be the key to solutions.

GO FOR QUANTITY Aim for as many new ideas as possible. In a good session, up to 100 ideas are generated in 60 minutes.

BE VISUAL Use yellow, red, and blue markers to write on big 30-inch by 25-inch Post-its that are put on a wall.

STAY FOCUSED ON THE TOPIC Always keep the discussion on target.

ONE CONVERSATION AT A TIME No interrupting, no dismissing, no disrespect, no rudeness.

3. RAPID PROTOTYPING

Mocking up working models helps everyone visualize possible solutions and speeds up decision-making and innovation. Some guidelines:

MOCK UP EVERYTHING It is possible to create models not only of products but also of services such as health care and spaces such as museum lobbies.

USE VIDEOGRAPHY Make short movies to depict the consumer experience.

GO FAST Build mock-ups quickly and cheaply. Never waste time on complicated concepts.

NO FRILLS Make prototypes that demonstrate a design idea without sweating over the details.

CREATE SCENARIOS Show how a variety of people use a service in different ways and how various designs can meet their individual needs.

BODYSTORM Delineate different types of consumers and act out their roles.

4. REFINING

At this stage, IDEO narrows down the choices to a few possibilities. Here's how it's done:

BRAINSTORM in rapid fashion to weed out ideas and focus on the remaining best options.

FOCUS PROTOTYPING on a few key ideas to arrive at an optimal solution to a problem.

ENGAGE THE CLIENT actively in the process of narrowing the choices.

BE DISCIPLINED and ruthless in making selections.

FOCUS on the outcome of the process—reaching the best possible solution.

GET AGREEMENT from all stakeholders. The more top-level executives who sign off on the solution, the better the chances of success.

5. IMPLEMENTATION

Bring IDEO's strong engineering, design, and social-science capabilities to bear when actually creating a product or service.

TAP ALL RESOURCES Involve IDEO's diverse workforce from 40 countries to carry out the plans.

THE WORKFORCE Employees have advanced degrees in different kinds of engineering: mechanical, electrical, biomedical, software, aerospace, and manufacturing. Many are experts in materials science, computer-aided design, robotics, computer science, movie special effects, molding, industrial interaction, graphic and Web information, fashion and automotive design, business, communications, linguistics, sociology, ergonomics, cognitive psychology, biomechanics, art therapy, ethnology, management consulting, statistics, medicine, and zoology.

COVER STORY



Gateway

Concierge

Social Hub

Storytellers

BEFORE AND AFTER

WARNACO'S PROBLEM: Women didn't enjoy shopping for its lingerie in department stores and were turning to rival Victoria's Secret. They couldn't find the lingerie section and once they did, it was a mess. They couldn't easily find their sizes and if they did, fitting rooms were too small and there wasn't anywhere for a friend to sit.

IDEO'S SOLUTION Create a "gateway" to welcome consumers to the lingerie area. Have a concierge to provide help in finding styles and sizes. Create a social hub for friends to sit and talk. Place "storytellers"—two-sided displays that tell a fashion story on one side with lingerie on the other—around the floor. Place dispensers at the back to hold basics.

Yet by showing global corporations how to change their organizations to focus on the consumer, IDEO is becoming much more than a design company. Indeed, it is now a rival to the traditional purveyors of corporate advice: the management consulting companies such as McKinsey, Boston Consulting, and Bain. Management consultants tend to look at the corporate world through a business-school prism. By contrast, IDEO advises clients by teaching them about the consumer world through the eyes of anthropologists, graphic designers, engineers, and psychologists. "I haven't seen anything like them before," says Tom Wyatt, president of Warnaco's Intimate Apparel Group, who is turning to IDEO to help battle rival Victoria's Secret Ltd. "They're creative and strategic, eclectic and passionate. They're cool but without attitude."

And IDEO works fast. That's because the company requires its clients to participate in virtually all the consumer research, analysis, and decisions that go into developing solutions. When the process is complete, there's no need for a buy-in: Clients already know what to do—and how to do it quickly. Unlike traditional consultants, IDEO shares its innovative process with its customers through projects, workshops, and IDEO U, its customized teaching program. In IDEO-speak, this is

"open-source innovation." "Consulting firms usually come in, go away, and return with heavy binders that sit on the desk," says Kaiser's Nemer. "With IDEO, we partner up and work side-by-side. We are internalizing their methodology to build our own culture of innovation."

Eye Openers

IDEO DOESN'T HAVE the field to itself. Witnessing IDEO's success, management consulting firms are expanding their offerings to corporate clients to include a greater focus on consumers. And other design firms are piling into IDEO's space. Design Continuum in West Newton, Mass., Ziba Design in Portland, Ore., and Insight Product Development in Chicago are all experienced in understanding the consumer experience. Design Continuum, for example, observed consumer cleaning habits in research that helped P&G launch its \$1 billion Swiffer mop business. "IDEO has captured the imagination of the business world," says Craig M. Vogel, director of graduate studies at Carnegie Mellon University's School of Design, "but there are other firms doing similar work, trans-



Dispensers

lating user research into products and services.”

Even so, IDEO is far ahead of the competition. There is even something of a cult following in the sometimes staid world of business. IDEO’s clients don’t just like the firm, they love it. “I think the world of them,” says P&G CEO Alan G. Lafley, who has teamed up with IDEO to create a more innovative culture at the consumer-goods giant. “They are a world-class strategic partner.” Adds Sam Hall, vice-president for mMode at AT&T Wireless Services Inc., who turned to IDEO to redesign its mMode service: “Those guys really get it. They opened our eyes.” Since the mMode relaunch in November, 2003, subscriber membership has doubled. “I would work with them again in a heartbeat,” he says. “They are a fun bunch.”

Fun? Since when is changing corporate culture fun? But that’s how most corporate execs describe their experiences with IDEO. Contrast that to the fear and loathing that management consultants sometimes generate when they walk into a corporation’s offices. How does IDEO do it? Perhaps it is the unusual techniques it uses to energize corporate clients—“bodystorming,” “behavioral mapping,” “quick and dirty prototyping,” “deep dives,”

“unfocus groups,” “shadowing,” and “be your customer.”

Or perhaps it is working with interesting polymaths—people with two or three advanced degrees who climb mountains, go birding in the Amazon, and bike through the Alps—instead of the typical B-school grad management consultant. The head of the IDEO group that teaches companies how to innovate, Ilya Prokopoff, is a graduate of the U.S. Naval Academy with a BA in history and a master’s degree in architecture. He designs furniture and tinkers with old cars, such as his 1979 Alfa Romeo Giulia Super.

Corporate execs probably have the most fun simply participating in the IDEO Way, the design firm’s disciplined yet wild-and-woolly five-step process that emphasizes empathy with the consumer, anything-is-possible brainstorming, visualizing solutions by creating actual prototypes, using technology to find creative solutions, and doing it all with incredible speed.

Here’s how it works: A company goes to IDEO with a problem. It wants a better product, service, or space—no matter. IDEO puts together an eclectic team composed of members from the client company and its own experts who go out to observe and document the consumer experience. Often, IDEO will have top executives play the roles of their own customers. Execs

from food and clothing companies shop for their own stuff in different retail stores and on the Web. Health-care managers get care in different hospitals. Wireless providers use their own—and competing—services.

The next stage is brainstorming. IDEO mixes designers, engineers, and social scientists with its clients in a room where they intensely scrutinize a given problem and suggest possible solutions. It is managed chaos: a dozen or so very smart people examining data, throwing out ideas, writing potential solutions on big Post-its that are ripped off and attached to the wall.

IDEO designers then mock up working models of the best concepts that emerge. Rapid prototyping has always been a hallmark of the company. Seeing ideas in working, tangible form is a far more powerful mode of explanation than simply reading about them off a page. IDEO uses inexpensive prototyping tools—Apple-based iMovies to portray consumer experiences and cheap cardboard to mock up examination rooms or fitting rooms. “IDEO’s passion is about making stuff work, not being artists,” says design guru Tucker Viemeister, CEO of Dutch-based designer Springtime USA. “Their corporate customers really buy into it.”

That pragmatic attitude is why no-nonsense CEOs are often more comfortable with IDEO than with product designers primarily interested in style. Kelley, born in Barberton, Ohio, says IDEO shares “Midwestern kind of values” with many of his clients. Kelley, who studied engineering at Stanford, now teaches there, holding the Donald W. Whittier Professor of Mechanical Engineering endowed chair. He travels between

THE FIRM RUN BY BROWN AND KELLEY HAS LONG BEEN A FORCE IN THE WORLD OF PRODUCT DESIGN. NOW IDEO IS MOVING INTO SERVICES



COVER STORY

IDEO's Palo Alto offices and the nearby Stanford campus in a 1954 Chevy pickup truck. "It's all about authenticity, about solutions, not style."

Some corporations send their top people to IDEO just to open their minds. P&G CEO Lafley took all the people who report directly to him—his entire Global Leadership Council of 40 business-unit heads—to San Francisco for a one-day immersion. IDEO promptly sent them all out shopping. The goal was to have the execs understand consumer experiences so they could come up with innovations. Lafley's own team went to buy music, first at a small, funky music store, then at a large retail music store, and finally online. IDEO team members shopped alongside them to analyze each experience as it unfolded. Other P&G executives went shopping with poor people so they might better understand what it means for Third World consumers to buy the company's products.

IDEO's strategic relationship with P&G runs deep. In weekly workshops and monthly stays in Palo Alto, P&G managers



IDEO REDESIGNED the mundane shopping cart for ABC-TV's *Nightline* in just five days



IDEO CREATED a concept computer, the Florence, to showcase Intel's 2005 mobile-chip capabilities

P&G CEO LAFLEY TOOK ALL THE EXECS WHO REPORT TO HIM TO SAN FRANCISCO FOR A **ONE-DAY IMMERSION**. IDEO SENT THEM OUT SHOPPING

are taught the techniques that go into observation, brainstorming, prototyping, and fast implementation. CEO Brown sits on P&G's own design board, along with General Motors Corp.'s Robert A. Lutz and other design-minded executives. IDEO has even built an innovation center for P&G called "the Gym," where P&G staffers are inculcated in the IDEO innovation process. "They opened our eyes to new ways of working," says Claudia Kotchka, vice-president for design innovation and strategy at P&G. "They solved problems in ways we would never have thought."

Like a law firm, IDEO specializes in different practices. The "TEX"—or technology-enabled experiences—aims to take new high-tech products that first appeal only to early adopters and remake them for a mass consumer audience. IDEO's success with the Palm V led AT&T Wireless to call for help on its mMode consumer wireless platform. The company launched mMode in 2002 to allow AT&T Wireless mobile-phone customers to access e-mail and instant messaging, play games, find local restaurants, and connect to sites for news, stocks, weather, and other information. Techies liked mMode, but average consumers were not signing up. "We asked [IDEO] to redesign the interface so someone like my mother who isn't Web savvy can use the phone to navigate how to get the weather or where to shop," says mMode's Hall.

Too Many Clicks

IDEO's GAME PLAN: It immediately sent AT&T Wireless managers on an actual scavenger hunt in San Francisco to see the world from their customers' perspective. They were told to find a CD by a certain Latin singer that was available at only one small music store, find a Walgreen's that sold its own brand of ibuprofen, and get a Pottery Barn catalog. They discovered that it was simply too difficult to find these kinds of things with their mMode service and wound up using the newspaper or the phone directory instead. IDEO and AT&T Wireless teams also went to AT&T Wireless stores and videotaped people using mMode. They saw that consumers couldn't find the sites they wanted. It took too many steps and clicks. "Even teenagers didn't get it," says Duane Bray, leader of the TEX practice at IDEO.

After dozens of brainstorming sessions and many prototypes, IDEO and AT&T Wireless came up with a new mMode wireless service platform. The opening page starts with "My mMode" which is organized like a Web browser's favorites list and can be managed on a Web site. A consumer can make up an individualized selection of sites, such as ESPN or Sony Pictures Entertainment, and ring tones. Nothing is more than two clicks away.

An mMode Guide on the page allows people to list five places—a restaurant, coffee shop, bank, bar, and retail store—that GPS location finders can identify in various cities around the U.S. Another feature spotlights the five nearest movie theaters that still have seats available within the next

WHY CORPORATIONS TURN TO IDEO

Lots of well-known companies—including some we can't talk about—use the firm's services

COMPANY	PROBLEM	SOLUTION
INTEL	Show computer makers the capabilities of its 2005 mobile platform chipset.	Build "concept" notebook—the 17-inch Florence—a wireless consumer appliance that replaces the TV, PC, DVD, and phone.
NESTLE	Kids are eating chocolate less because they are spending more time on their cell phones.	Conceive of new and exciting chocolate-eating experiences for the young set.
GLOBAL AUTO COMPANY (SECRET)	Feared being out of touch with Gen Y, the under-25 generation.	Do research on the values of the young. "Authenticity" turns out to be their most important concern.
LUFTHANSA	Needed to build first wireless remote for in-flight entertainment and cabin management.	Design a sleek handheld remote that orders movies, music, and food, dims lights, and cools air.
SAMSUNG	Decided in 1991 to elevate role of design in the corporation to overcome its reputation of making shoddy electronics.	Brought Samsung designers and managers to IDEO U innovation workshops, created an innovation center, and jointly designed a series of products in the 1990s.
PHARMACEUTICAL CO. (SECRET)	Wanted to benchmark its speed of product development.	Produce research called How Fast Is Fast. The best speed: 8 to 14 months from idea to market.

hour. Yet another, My Locker, lets users store a large number of photos and ring tones with AT&T Wireless. The whole design process took only 17 weeks. "We are thrilled with the results," says Hall. "We talked to frog design, Razorfish, and other design firms, and they thought this was a Web project that needed flashy graphics. IDEO knew it was about making the cell phone experience better."

IDEO's largest practice is health care, accounting for 20% of its revenues. In addition to Kaiser Permanente, doctors, nurses, and managers at the Mayo Clinic in Rochester, Minn., SSM DePaul Health Center in Bridgeton, Miss., and Memorial Hospital & Health System in South Bend, Ind., among others, have teamed up with IDEO. They discovered that health providers tend to focus on technology and medicines. Patients, on the other hand, are concerned with service and information.

Fred Dust, head of IDEO's Smart Spaces practice, spent hours in DePaul's emergency rooms. He saw that patients were anxious not just because of their injuries but also because they simply didn't know when they were going to be treated. Dust suggested a cheap monitor in emergency rooms that lets patients know when they will be called.

"Shop-a-longs"

SURPRISINGLY, MANY OF THE lessons learned in the health practice work in retail. Just as getting medical care is a shared experience, so is shopping. Warnaco's Wyatt went to IDEO when faced with severe competition from Victoria's Secret. Warnaco was at a disadvantage because its lingerie is sold in department stores rather than in its own private shops. "Consumers were not having a good experience shopping for our products, and we needed to make the department stores more inviting," says Wyatt. "We turned to IDEO because it had done unique things with hospitals and Gap Inc. and Prada that enhanced the shopping experience."

Warnaco and IDEO teams did "shop-a-longs" with eight women. They also visited department stores in three cities to understand something as personal as the lingerie shopping ex-

perience. The upshot: Women didn't especially enjoy shopping for Warnaco's products. When they entered a department store, they couldn't find the lingerie section. Once they did, they couldn't find their sizes. The fitting rooms were too small to accommodate a female friend—and there was no place nearby for anyone to sit. The experience was eerily like that of the dissatisfied patient in Kaiser's hospitals: bad.

In 18 weeks, IDEO and Warnaco came up with a solution. They created a new kind of retail space within department stores with big fitting rooms, a sitting area for couples and friends to talk privately, concierges to guide shoppers, and displays offering fashion options. Now, Warnaco is working with department stores to implement the design.

During the '90s boom, some 35% of IDEO's revenues came from designing products and Web services for Internet and other startups. At its peak in 2002, IDEO generated some \$72 million in revenues. The tech bust destroyed that business model. Brown, then the head of IDEO Europe and its London office, was made CEO in 2000 by Kelley. In 2004, Brown reorganized IDEO into a professional consultancy around practices, or fields of expertise. "With practices, you can talk to clients with a voice they can connect to," says Brown. "It allows us to focus on their broader needs and serve them more effectively."

IDEO may yet stumble. Its penchant for zany terminology verging on new-age jargon could potentially turn off no-nonsense CEOs. And companies used to button-down management types may not be attracted to IDEO's fast-paced, open-ended methods. "The first P&G team that worked with IDEO called back in horror," says P&G's Kotchka. "They said, 'These people have no process.' We later saw that they do have a process. It just doesn't look like ours."

Despite—or because of—its iconoclastic ways, IDEO's ideology is gaining traction. Stanford, for one, has bought in. It has committed to raising \$35 million so that Kelley can create a "D-school," a new design school that may one day match Stanford's famed B-school. Stanford professors in business, engineering, social sciences, and art will teach there. Sounds a lot like IDEO. If the D-school students are lucky, they might even have as much fun as IDEO's corporate clients. ■



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