THE WEIRD RULES OF CREATIVITY

By

Robert L. Sutton

YOU KNOW HOW TO MANAGE FOR EFFICIENCY AND PRODUCTIVITY, BUT IF IT’S CREATIVITY YOU WANT, CHANCES ARE YOU’RE DOING IT ALL WRONG
For the past decade at least, the holy grail for companies has been innovation. Managers have gone after it with all the zeal their training has instilled in them. They've focused on identifying the optimal incentives and inputs to the creative process, on bringing customers' and other important perspectives to bear, on investing in ideas according to their odds of success, and on slashing the percentage of losers. There's only one problem: None of that works very well.

What does foster creativity doesn't look at all like rational management to most experienced executives. The practices go beyond counterintuitive; they seem downright weird. For example, you might reasonably expect that creativity would flourish in a fun, low-stress workplace, where conflict is held in check and managers keep a close watch on how money is spent and people use their time. You'd be wrong. After studying creative companies and teams for more than a decade, I've found them to be remarkably inefficient and often terribly annoying places to work, where "managing by getting out of the way" is often the best approach of all.

Managing for creativity, I've discovered, means taking most of what we know about management and standing it on its head. It means placing bets on ideas without much heed to their projected ROI. It means ignoring what has worked before. It means taking perfectly happy people and goading them into fights among themselves. Good creativity management means hiring the candidate you have a gut feeling against. And as for those people who stick their fingers in their ears and chant, "I'm not listening, I'm not listening," when customers are making suggestions? It means praising and promoting them.

In this article, I advocate several ideas about managing creativity that are clearly odd but just as clearly effective. One set of ideas relates to hiring, another to management, and a third to risk and randomness. All of them have solid grounding in academic research. And here's what's really weird. I've actually found numerous companies and teams that use these ideas with great results.

Why These Weird Ideas Work

The practices in this article succeed by increasing the range of a company's knowledge, by causing people to see old problems in new ways, and by helping companies break from the past. Decades of research show that these three conditions produce the richest soil for creative work. So why do ideas for promoting them seem so strange to managers?

It's because as important as innovation is to most companies, it isn't-and never will be-their primary activity. Quite the contrary, companies are overwhelmingly focused on making money right now from tried-and-true products, services, and business models. The practices that are well suited for cashing in on old, proven ways are drastically different from those needed for innovation. Consider the contrast between how Disney organizes the work of cast members at its theme parks and that of "imaginers" at its research and development facility in Burbank, California. The job titles are revealing metaphors for the two kinds of work. Cast members in theme parks follow well-defined scripts; whether they are playing the role of Cinderella or Goofy, acting as guides on the Jungle Cruise, or sweeping the streets, precise guidelines are enforced to ensure that they stay in character. This is Disney's routine work. In contrast, Disney Imagineering is a place where people are expected to keep trying different things. Imaginers come to work each day to dream up wild ideas about new things a guest might experience. The best practices for imaginers can't be choreographed in the same detail as those of cast members. After all, the management problem is to expand the possibilities of what an imagineer might do, not to constrain them.

The right balance of what organizational theorist James March has termed exploitation of proven knowledge versus exploration of new possibilities varies across industries. But even in companies that are much ballyhooed for innovation, the practices that work best need to reflect the greater role of innovation as a strategic imperative. The best companies have restructured their organizations to make innovation an integral part of their day-to-day operations. They have invested in training that teaches managers to manage innovation as an asset, not an anomaly. And they have created cultures that reward innovation not with merit badges, but with the freedom to fail and the opportunity to learn from failure.

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## WEIRD IDEAS FOR MANAGING CREATIVITY

Conventional ideas that work | **Weird ideas that work**
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### DECIDE TO DO SOMETHING THAT WILL PROBABLY...
- succeed, then convince yourself and everyone else that success was certain
- fail, then convince yourself and everyone else that success was certain

### REWARD...
- success, punish failure and inaction
- success and failure, punish failure and inaction

### SEEK OUT...
- and be attentive to people who will evaluate and endorse the work
- ways to avoid, distract and bore customers, critics and nayone who just wants to talk about money

### THINK OF SOME...
- sound or practical things to do, and plan to do them
- ridiculous impractical things to do, and plan to do them

### HIRE...
- "fast learners" (of the organizational code)
- people who make you feel comfortable, whom you like
- people you (probably) do need
- "slow learners" (of the organizational code)
- people who make you uncomfortable, even those you dislike
- people you (probably) don't need

### USE JOB INTERVIEWS...
- to screen candidates and especially to recruit new employees
- to get new ideas, not to screen candidates

### IGNORE PEOPLE...
- who have never solved the exact problem you face
- who have solved the exact problem you face

### FIND SOME HAPPY PEOPLE....
- and make sure they don't fight
- and get them to fight

### ENCOURAGE PEOPLE...
- To pay attention to and obey their bosses and peers
- To ignore and defy their bosses and peers

### SUMMARY
- efficiency indicates effectiveness in the implementation and use of proven ideas
- creative companies and teams are inefficient (and often annoying) places to work

What makes for effective management practice can look very different, depending on whether the aim is to exploit already—proven ideas or explore new ones. In researching my book, *Weird Ideas That Work*, I uncovered ideas for managing creativity and innovation—nearly all 180 degrees different from standard management practice.
innovation, only a small percentage of effort is usually devoted to generating and testing new products and services. This comparative rarity helps explain why practices that support innovation may seem odd and provoke discomfort and why managers hesitate to use them even when they should. Study after study shows that, independent of other factors, the more often people are exposed to something, the more positive they feel about it; rare and unfamiliar things provoke negative evaluations. This "mere exposure effect" has been found, as Stanford psychologist Robert Zajonc writes, for "geometric figures, random polygons, Chinese and Japanese ideographs, photographs of faces, numbers, letters of the alphabet, letters of one's own name, random sequences of tone, food, colors, flavors, colors, actual persons, stimuli that were initially liked and initially disliked stimuli." People are unaware of the effect and routinely deny it is happening, but still it persists.

Little wonder, then, that the best ideas for promoting and sustaining creativity seem strange, even wrong, to most managers. As we'll see, managing for innovation often means shifting your traditional, rational approaches to hiring, management, and risk 180 degrees.

It Starts with Hiring

The difference begins with hiring. What rational manager would intentionally hire someone who would be slow to learn the company culture or who would make coworkers feel uncomfortable? Who would waste a hire on a candidate whose skills the company doesn’t even need? Or bring in a person without previous experience in solving the type of problem at hand? Yet these are all sound approaches for building companies that embrace innovation as a way of life.

Let's begin with those "slow learners." Most companies, of course, screen job candidates to pick out the fast learners—those gregarious people with social graces who can figure out quickly how to do things "the right way." But companies and teams that do innovative work need at least some members who are slow to learn how things are "supposed to be done." Otherwise, each newcomer will soon become a perfect imitation of everyone else in the company, and there won't be any new ideas around to develop and test.

Research in personality psychology suggests that people with certain traits are best able to avoid, ignore, or reject "the heat of the herd," as futurist George Gilder puts it. These include people who have high self-esteem and those who psychologist Mark Snyder calls "low self-monitors"—people who are especially insensitive to subtle, and even not so subtle, hints from others about how to act. For better or worse, low self-monitors are relatively unfettered by social norms. These mavericks and misfits can drive bosses and coworkers crazy, but they increase the range of what is thought, noticed, said, and done in a company. High self-monitors are likely to be yes-men and -women; they can't stop themselves from telling others what they think they want to hear. Low self-monitors can't stop themselves from saying and doing what they think is right because they don't notice— or don't care about—pressures to follow the herd. People with high self-esteem think and act independently as well; confident people continue to believe in their ideas despite rejection and criticism.
The Xerox researcher who invented the laser printer, Gary Starkweather, is a great example of someone who succeeded because he felt compelled to do what he felt was right and had enough self-confidence to reject the organizational code. As Michael Hiltzik recounts in his book *Dealers of Lightning*, Starkweather was hired in 1968 as an optics researcher by Xerox’s main technical laboratory in Webster, New York. He kept insisting that the then new “technology of lasers could be used to ‘paint’ an image onto a xerographic drum with greater speed and precision than ordinary white light.” The traditional “white light” researchers at the Webster lab repeatedly dismissed lasers as impractical and too expensive. Starkweather responded by doing one experiment after another that answered nearly every objection raised by his superiors and peers. When Starkweather’s manager still tried to stop his research, he was confident enough to complain to a senior manager at Xerox about how “laboratory dogma” was ruining both a good idea and his career. He was then transferred to the new Xerox PARC research facility in Palo Alto, California; by 1974, he had developed his ideas into a commercially feasible product. When it was finally launched in 1977, the 9700 printer became one of Xerox’s best-selling products.

Hiring people who make you uncomfortable, even those you don’t like, is another way to find a few useful misfits who will ignore and reject the organizational code, increasing the variety in what people think, say, and do. A senior executive in a toy company once told me that her managers kept hiring people who pretended to “think like us” during job interviews but showed their true colors after being hired by pointing out how bad the company’s products were. The behavior, in her words, “makes us hate them” - but, she admitted, some of those complainers were crucial to her company’s success because they kept coming up with great ideas for new toys (“probably just to spite us”). Of course, the next step, which I recommended to her, is to intentionally hire people that she and others in the company dislike.

Another way to spark creativity is to hire people with skills you don’t think you need. If this sounds ridiculous, consider that the practice is not uncommon among product design companies, which live or die on innovation. This attitude led IDEO to hire Craig Syverson because he seemed to have a lot of “cool” skills in areas like computers and the arts. When IDEO’s managers offered him a position, they weren’t quite sure what the job would entail or if they needed his skills at all. Syverson experimented with several jobs, but soon focused on video production work even though, at first, there was no demand for custom videos from IDEO clients. As IDEO’s focus expanded, however, from designing products to designing user and customer experiences, Syverson’s ability to capture how people use different products became a crucial-and profitable-service to clients.

Design Continuum is another product design company that brings in new ideas by hiring people with varied, even offbeat, backgrounds. It has hired engineers who moonlight or have worked as sculptors, carpenters, and rock musicians. The company likes to hire people such as Roy Thompson, who started out writing graffiti on the streets and subways of Brooklyn, and David Cohen, who worked as an aircraft mechanic. These diverse experiences give the company a broad palette of ideas to try in new ways and places.

If I were running a company that depended on innovation, I would go even further to import fresh knowledge: I would hire some people who had never tried to solve problems like the ones I was addressing. In the creative process, ignorance is bliss, especially in the early stages. People who don’t know how things are “supposed to be” aren’t blinded by preconceptions.

The easiest way to guarantee such naivete is to hire novices, as Jane Goodall’s ground-breaking research on chimpanzees shows. When anthropologist Louis Leakey offered Goodall the opportunity to do two years of intensive observations of these apes in Africa, Goodall hesitated to take the job because she had no scientific training. Leakey insisted that not only was university training unnecessary, it had serious drawbacks. Goodall explains in her book *In the Shadow of Man*, “He wanted someone with a mind uncluttered and unbiased by theory who would make the study for no other reason than a real desire for knowledge.” Ultimately, Goodall and Leakey both believed that if she had not been ignorant of existing theories, she never would have been able to observe and explain so many new chimp behaviors.

Dyson Appliances, maker of the hottest-selling vacuum cleaner in the United Kingdom, takes much the same approach to hiring. Dyson’s Dual Cyclone has a powerful and groundbreaking vacuum technology and requires no bag. The machine has a striking colorful design and see-through chamber that lets you view the cyclone inside as it spins at nearly 1,000 miles per hour. Founder and CEO James Dyson believes that one reason his company invents successful products is that it employs graduates straight from universities. He writes, “They are unsullied. They have not been strapped into a suit and taught to think by a company with nothing on its mind but short-term profit and early retirement.”
Systems, whose innovative fuel cell technology might just replace the internal combustion engine. As Tom Koppell describes in his book *Powering the Future*, founder and then CEO Geoffrey Ballard hired a young chemistry professor named Keith Prater in 1974 to work on batteries the company was developing. Prater warned Ballard that he had no experience in batteries. "That's fine," said Ballard, "I don't want someone who knows batteries. They know what won't work. I want someone who is bright and creative and willing to try things that others might not try." And indeed, Prater played a key role in developing innovative batteries during the company's early days, and later, in making breakthroughs in fuel cells for powering buses and cars.

Managing for Creative Sparks

Once you've got your talent in the door, the next order of business is to do something with it. Again, my ideas will seem strange to people who believe that the best ways for managing routine tasks are equally well suited to innovative work, but they are supported by theory and practice. If you want creativity, you want, you should encourage people to ignore and defy superiors and peers-and while you're at it, get them to fight among themselves. You should reassign people who have settled into productive grooves in their jobs. And you should start rewarding failure, not just success; reserve punishment only for inaction.

People who do what they think is right - rather than what they are told or what they anticipate their superiors want - can drive their bosses crazy and get their companies in deep trouble. But they also force companies to try ideas that some boss or powerful group may have rejected as a waste of time or money. 3M's former CEO William McKnight, for example, once ordered a young employee named Richard Drew to abandon a project he was working on, insisting it would never work. Drew disregarded the order and went on to invent masking tape, one of 3M's breakthrough products. Drew's perseverance also laid the foundation for 3M's defining product, Scotch tape.

Similarly, in *The HP Way*, David Packard bags about an employee who defied a direct order from him. "Some years ago," he writes, "at an HP laboratory in Colorado Springs devoted to oscilloscope technology, one of our bright, energetic engineers, Chuck House, was advised to abandon a display monitor he was developing. Instead he embarked on a vacation to California- stopping along the way to show potential customers a prototype." House was convinced he was on to something, so he persisted with the project, even persuading his R&D manager to rush the monitor into production. The resulting $35 million in revenue proved he was right Packard continues: "Some years later, at a gathering of HP engineers, I presented Chuck with a medal for 'extraordinary contempt and defiance beyond the normal call of engineering duty.' I've never seen an organization with guidelines such as, "Ignore your boss if you think he or she is wrong." If you work in a place that actually enforces a rule like this, please contact me immediately. I have, however, found companies where managers provide vague encouragement for employees to work on what they want and don't demand to know the details. This 'don't ask, don't tell' policy is made explicit at 3M, where technical people are expected to allocate up to 15% of their time to projects of their own choosing. The same attitude and similar practices are seen at Corning's Sullivan Park R&D lab, which churns out hundreds of kinds of experimental glass each year. Scientists there are required to spend 10% of their time on "Friday afternoon experiments" to develop "slightly crazy ideas." This policy not only allows scientists to work on pet projects that bosses don't know about but also frees them to work on pet projects that superiors have discontinued. For instance, an entire genomics-technology business is being built on an idea that was officially killed by the head of research but was pursued in Friday afternoon experiments.

In fact, creative work must be sheltered from the cold light of day, especially when ideas are incomplete and untested. William Coyne, former vice president of R&D at 3M, remarked in a speech at Motorola University, "After you plant a seed in the ground, you don't dig it up every week to see how it is doing." In an age of customer-centricity, this may border on the heretical. But if you want to develop new products and services, I urge you to keep your creative people away from your biggest customers—and for that matter from critics and anyone whose primary concern is money.

Doing so helps creativity blossom. Psychological research shows that people are especially hesitant to try new things in front of "evaluative others" like critics and bosses. The virtues of doing innovative work in isolation are well documented. Tracy Kidder's Pulitzer Prize-winning book, *The Soul of a New Machine*, describes an engineering team that was sequestered in the basement offices of Data General. Kidder shows how the resulting lack of attention helped the "MicroKids" on this "Eagle Team" do a better and faster job of designing a minicomputer. Kiyoshi Kawashima, former president of Honda, used a similar approach in 1978. He was concerned that Honda was losing its vitality because senior managers couldn't understand what kinds of cars young people wanted. Kawashima assembled the youngest members of his staff (average age 27) to design a car that would appeal to younger customers and promised that senior managers would not interfere with the team's operation. The result was the hot-selling Honda City Car. Few companies, it seems, are able to innovate without shielding teams from the mainstream.

At the same time, a company shouldn't let a team get too cozy. One of my most well-supported ideas for man-
Aging creativity is that you should find some happy people and then get them to fight. Mind you, I'm not talking about provoking personality conflicts or relationship issues; battles between people who despise one another squelch innovation. The fights you need to cause are all about ideas. Bob Taylor, a psychologist turned research administrator, first encouraged this kind of conflict among the computer scientists from various universities he funded while at the U.S. Department of Defense's Advanced Research Projects Agency (ARPA) in the 1960s and later at Xerox PARC in the 1970s. These scientists and engineers, perhaps more than any others, are responsible for the technologies that made the computer revolution possible, including the personal computer, the Internet, and the laser printer. The computer scientists Taylor funded through ARPA met at an annual series of research conferences, as retold by Michael Hiltzik: The daily discussions unfolded in a pattern that remained peculiar to Taylor's management style throughout his career. Each participant got an hour or so to describe his work. Then he would be thrown to the mercy of the assembled court like a flank steak to a pack of ravenous wolves. "I got them to argue with each other," Taylor recalled with unashamed glee...."These were known procedures are used by well-trained people, failure does signal improper training, weak motivation, or poor leadership. But applying this standard to innovative work stifles intelligent risks. Every bit of solid theory and evidence demonstrates that it is impossible to generate a few good ideas without also generating a lot of bad ideas. Former Time Warner chairman Steve Ross had a philosophy that people who didn't make enough mistakes should be fired. That's an anomaly, though. Few companies tolerate failure, let alone reward it.

If you want a creative organization, inaction is the worst kind of failure - and the only kind that deserves to be punished. Researcher Dean Keith Simonton provides strong evidence from multiple studies that creativity

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| Enhancing innovation also has to do with how performance is rewarded. This, too, entails a dramatic departure from the management practices ingrained in most companies. Rather than rewarding success and punishing failure, companies should reward both. Again, I must distinguish between what is right for routine work and what is right for creative work. When

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results from action. Renowned geniuses like Picasso, da Vinci, and physicist Richard Feynman didn’t succeed at a higher rate than their peers. They simply produced more, which meant that they had far more successes and failures than their unheralded colleagues. In every occupation Simonton studied, from composers, artists, and poets to inventors and scientists, the story is the same: Creativity is a function of the quantity of work produced. These findings mean that measuring whether people are doing something—or nothing—is one of the ways to assess the performance of people who do creative work. Companies should demote, transfer, and even fire those who spend day after day talking about and planning what they are going to do but never do anything.

Some Ideas About Risk and Randomness

One of the main reasons for rewarding both success and failure is that most managers, analysts, and other so-called experts (like everyone else) do a poor job of judging new ideas and predicting which ones will succeed. Organizations use all sorts of methods, such as "gates" in the product development process, to try to improve their odds of success. But there is little evidence that such practices actually reduce the proportion of flops. As James March writes, "Unfortunately, the difference between visionary genius and delusional madness is much clearer in history books than in experience."

Yet there is one simple, proven, and powerful thing you can do to increase the likelihood that a risky project will succeed: Commit to it wholeheartedly. Forget the slim odds; simply convince yourself and everyone else that, with determination and persistence, the project is destined to be a triumph.

More than 500 academic studies confirm the power of positive thinking. As the famous sociologist Robert Merton explained it:

The self-fulfilling prophecy is, in the beginning, a false definition of the situation evoking a new behavior which makes the originally false conception come true. The spurious validity of the self-fulfilling prophecy perpetuates a reign of error. For the prophet will cite the actual course of events as proof that he was right from the very beginning. Such are the perversities of social logic. Henry Ford put it more succinctly: "If you think you can, or if you think you can’t, you’re right."

Successful heretics tend to be confident and persistent. They believe deeply in what they are doing and are skilled at convincing everyone around them that they are right. Apple co-founder (and, once again, CEO) Steve Jobs does this with his widely touted "reality distortion field." Insiders recount how he casts a spell on those around him, convincing them that the success of an idea, project, or person is virtually certain. Aircraft designer and former test pilot Burt Rutan managed to do this with the team developing the Voyager, which became the first airplane to fly nonstop around the world without refueling. Numerous "experts" predicted that the Voyager was doomed to fail, just as they predicted that other experimental aircraft designed by Rutan wouldn’t work. Rutan told his engineers, "Confidence in nonsense is required." This suggests that, if you can’t decide which new projects or ideas to bet on based on their objective merits, pick those that will be developed by the most committed and persuasive heretics.

If predictions about which new ideas will succeed are so hard to make, and commitment to an idea, any idea, is one of the only surefire ways to increase the odds of success, does this mean that companies might as well use a random process to generate possibilities to explore? Actually, yes. Random selection is one of the best ways to ensure that new ideas will not be biased by knowledge of past successes. I got this idea from Karl Weick of the University of Michigan, who has described the ritual used by Naskapi Indians to determine where to hunt game. They placed the shoulder bone of a caribou over a fire until it cracked-then read the cracks as a map. Weick asserts that the ritual was effective because plans for future hunts were not shaped by the results of past hunts. It kept the Naskapis from mindlessly returning to - and depleting-territory they had covered before.

The same logic is used by some companies to generate ideas about different paths they might take. Reactivity, a software company I advise, holds regular brainstorming sessions where employees talk about ideas for new technologies, products, and companies. After holding a few of these sessions, software designers Jeremy Henrickson, Graham Miller, and Bill Walker were becoming concerned that the ideas discussed were getting too narrow. So they invented a random selection process: Attendees at the sessions were given index cards and told to jot down on each a technology (one stack of cards) or an industry (a second stack). The stacks were then used to create random pairings of technologies to industries, and the group brainstormed for five minutes on the possibilities of each pair. Some seemed hopeless-how much could XML programming, for instance, reshape the funeral industry? But others—an idea about dynamic risk management in the shipping industry, for instance—seemed well worth researching in more detail. Most important, Miller reports, it "helped get us out of the rut we were in."

Companies that want to avoid getting stuck in a rut should be especially wary of opinions from customers.
who use their current products or services, and from the marketing and sales people who represent their views. Michael Eisner, CEO of Disney, put it this way in an interview in the January-February 2000 issue of *Harvard Business Review*: "Most audience - or customer - research is useless." Just because everyone loved *Titanic*, he argued, doesn't mean they want another movie "about a love affair and a sinking ship." Most of the mainframe computer users that IBM surveyed in the 1970s couldn't imagine why they would ever want a small computer on their desks. And Bob Metcalfe, the founder of 3Com, wrote in MIT's *Technology Review* that the financial success of 3Com's Etherlink, a high-speed way to connect computers, happened because he ignored reports from salespeople that customers were clamoring for a slight improvement in a popular product.

**A Constant, Constructive Contest**

My aim here is not to convince your company to discard every routine it uses and devote all efforts to inventing new ways of thinking and acting. On the contrary, doing routine work with proven methods is the right thing to do most of the time. It is wise to manage most organizations as if the future will be a perfect imitation of the past. Hospitals want surgical residents to perform operations exactly as their experienced mentors do. Airlines want new pilots to fly 747s just like the experienced pilots who came before them did. McDonald's wants each new trainee to make Big Macs just the way they have always been made. Tried and true wins out over new and improved most of the time.

But if part of your mission is to explore new possibilities, then your goal must be to build a culture that supports constant mindfulness and experimentation. It isn't sufficient to generate new ideas now and then. Your company—or more likely a part of it—needs to be a place that generates and tests many disparate ideas. It should be an arena, a constant and constructive contest, where the best ideas win.

Will these ideas for innovation ever look anything but weird to the majority of managers? Probably not, because most companies will always devote more time, people, and money to exploiting old ideas than to exploring new ones. Exposure effects being what they are, managing for creativity will always require a conscious effort. However, if you read "Dilbert" or have friends in the arts, you know that exposure effects cut both ways. To people who spend their days doing creative work, the way that most companies are managed seems just as weird.

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"That's correct, sir. All the fortunes say 'What will be, will be' due to a fortune cookie writers strike."