



Creative Thinking

THE GAME CHANGER

The story is legend — a textbook example of management innovation.

In 1976, John Reed was a senior vice president at Citibank and a banking wunderkind. On vacation in the Caribbean — but still thinking about business — he wrote 30 pages of what started out to be random notes. His ideas took shape and turned into a blueprint for a new type of bank.

Back in New York, Reed circulated his ideas in a “Memo From the Beach,” which proposed that Citibank develop a network of street-level cash machines and market its credit cards nationally. The rest, as they say, is history. ATMs transformed the banking industry.

Reed’s “aha” memo provides a great case study on creativity and on the way creative thinking really works, according to Stuart Bunderson, professor of organizational behavior; Markus Baer, assistant professor of organizational behavior; and Keith Sawyer, associate professor of education and associate professor of psychology, Arts & Sciences.

“Reed didn’t invent ATMs; the technology had been around for almost 10 years,” Sawyer says. But Reed did connect dots no one else had. “His breakthrough came from his ability to make creative associations and let them incubate and recombine.”

Bunderson, Baer and Sawyer research, teach and write about creativity and innovation. They also joined forces on the development of Olin Business School’s new MBA course on creative thinking that begins this fall. *OlinBusiness Magazine* asked the professors to share their knowledge on the subject and explain how creativity fuels competitive advantage.



Markus Baer, Stuart Bunderson and Keith Sawyer

“Creativity is the driver of global competitive advantage. What sets companies apart from the crowd isn’t just that they’re playing the game well; they’re redefining what it means to play the game.” *Stuart Bunderson*

► This is the fourth in a series of articles on Olin Business School’s key research and teaching initiatives. Written to provide business practitioners with “how to’s” on useful business concepts, the series previously covered the topics of innovation, critical thinking and strategic problem formulation. Download copies of these articles via the Olin website: www.olin.wustl.edu/media.

WHERE DOES CREATIVITY FIT IN THE INNOVATION PROCESS?

Bunderson: Creativity is idea generation; innovation is the implementation of a creative idea. In other words, creativity is a seed, and innovation is a plant. When you generate and nourish a creative idea, you get innovation.

PROFESSOR SAWYER SAYS CREATIVITY DRIVES TODAY’S GLOBAL ECONOMY. EXPAND ON THE STATEMENT.

Sawyer: In our competitive global environment, many traditional business models are being squeezed to lower profit margins. Repetitive work can be automated or outsourced. Top-line and organic growth depend on innovation and on creative solutions to pressing problems.

Bunderson: Keith is absolutely right: Creativity is the driver of global competitive advantage. What sets companies apart from the crowd isn’t just that they’re playing the game well; they’re redefining what it means to play the game. Look at Steve Jobs and Apple. Apple hasn’t been content to make a better mouse-trap. Apple has delivered game-changing innovations that introduce new product categories or become the new product standard — like the iPod, iPhone and iPad.

Baer: Keith’s books, “Group Genius: The Collaborative Power of Creativity” and “Explaining Creativity: The Science of Human Innovation,” offer great information on the subject. Managers also may want to read Tom Kelley and Jonathan Littman’s book, “The Ten Faces of Innovation: IDEO’s Strategies for Defeating the Devil’s Advocate and Driving Creativity Throughout Your Organization.”

WHY DOESN’T EVERY COMPANY INVEST IN CREATIVITY?

Bunderson: Because creativity is messy, inefficient and imprecise. There’s no formula that guarantees the successful generation, let alone implementation, of a creative idea. Creativity involves false starts, misfires and failures. Consequently, predicting how much time or money the development and execution of a creative idea requires is difficult. As a result, many companies invest in creativity only when they have slack resources. The problem with that approach is that tough economic times can be the impetus for frame-breaking innovations. Necessity really is the mother of invention. Companies that avoid the temptation to simply weather an economic storm and instead look for creative ways to leverage new ideas can leapfrog their competitors.

Sawyer: On the other hand, when everything is going well and profit margins are high, senior management can become complacent and continue with an existing successful business model — rather than use that success to invest in the next generation of products and services.

YOU’VE IDENTIFIED EIGHT BEHAVIORS THAT ENHANCE CREATIVITY. TELL US ABOUT THEM.

Bunderson: Studies show most creative ideas aren’t conceived ex nihilo, out of nothing. They’re the synthesis or reconnection of existing concepts, practices and technologies. So creative behavior No. 1 is associating, what Markus refers to as a core activity of our multicolored brains. People are more creative when they’re exposed to ideas from different industries, disciplines, social networks and cultures. How do people put themselves in situations where they’re more likely to make creative associations? The other behaviors

answer that question. Behavior No. 2 is observing, gaining an in-depth understanding of the problem domain through direct examination. For example, IDEO designers watch people interact with products — similar to how an anthropologist might conduct field research to understand an unfamiliar culture. The designers use their observations to redesign products or to create new ones.

Baer: Here’s another example that supports behavior No. 2: For years, Volkswagen’s U.S. operations suffered from declining sales. So the company initiated “Moonraker,” a project to observe how Americans really use their vehicles. During the year-and-a-half-long effort, a special team of VW’s European engineers, marketers, designers and sales personnel visited various U.S. settings — like the Mall of America, a rodeo, a NASCAR race and Daytona Beach during spring-break season. The team shared its insights at VW’s German headquarters. In contrast to Europeans, Americans treat their vehicles like moving living rooms, portable buffet tables and party-mobiles. As a result, additional cup holders and storage space were important features for U.S. automobile buyers.

Bunderson: Observing consumers makes the problems managers are trying to solve clearer. Observing tees up behavior No. 3, questioning — asking why, why-not and what-if questions to increase understanding and to envision possible alternatives to the status quo. Individuals can’t rely on their own observations and insights though. They need to involve others. Behavior No. 4 is networking, tapping into people from disparate thought worlds to gain different perspectives on and potential solutions to problems. Behavior No. 5, teaming, is about leveraging the power of diverse groups to generate novel ideas. Behavior No. 6, experimenting through prototypes or pilots, allows teams to quickly try out these ideas. The results of experiments are often unpredictable, and teams need to roll with the punches. So improvising is behavior No. 7. Finally, the last behavior is incubating. Ideas need to percolate. Creative individuals and companies build in time for that to happen. Adopting — and continually practicing — these eight behaviors can make anyone more creative.

HOW DOES COLLABORATION ADVANCE CREATIVITY?

Sawyer: Collaboration drives creativity because innovation comes from a series of sparks rather than from a single flash of insight. Lots of small ideas led to the Wright brothers’ success with the first powered flight. Business clusters, like Silicon Valley, enable companies from related industries to tap into the power of a collaborative web. Engineers — as well as CEOs — from

various firms ask each other questions, share ideas and solve common problems.

Bunderson: As Keith states in “Group Genius,” one of the biggest myths is that creativity comes from the heroic, lone entrepreneur with the brilliant invention. Creativity is seldom a solo endeavor. It happens when diverse people, ideas and perspectives bump into one another — informally in networks and formally in teams.

Baer: Groups are and aren’t good at certain things, however. For example, approximately 20 years of research has demonstrated that brainstorming isn’t always an effective way to generate a list of novel ideas. Individuals do that better on their own. Managers should use teams more when it comes to combining, synthesizing and improving on ideas.

YOU MENTIONED THE FLASH-OF-INSIGHT AND LONE-GENIUS CREATIVITY MYTHS. ARE THERE OTHERS?

Sawyer: People have numerous misconceptions about creativity: It’s mysterious. It rejects convention. Outsiders are more creative than insiders. Children are more creative than adults. Creative people are ahead of their time. Creativity is genetic. And creative brains are different from noncreative brains. These beliefs are all misleading or wrong. As Stuart mentioned previously, anyone can learn how to be more creative.

WHAT ARE THE BARRIERS TO CREATIVE THINKING?

Bunderson: The five T’s: Time, Trust, Turf, Title and Tidiness. If managers always are busy executing, they don’t have time to engage in creative behaviors. Because creativity involves a lot of uncertainty, questions, trial and error, and failure, employees must trust they won’t be unfairly criticized or reprimanded if they make mistakes. In addition, creativity requires a willingness to share ideas and perspectives. That won’t happen if people are worried about guarding their turf. Also, people tend to be less creative when they’re concerned about status or when a group meeting is co-opted by the person with the most senior title. Lastly, creativity is messy. It may seem counter-intuitive, but too much tidy planning — or concern about deviating from tidy plans — can dampen creativity.

Baer: Some of the barriers to creativity also derail problem formulation, or what we call “getting to know a problem.” Status differences increase the likelihood some individuals may push for their version of the problem and other individuals may acquiesce, which impedes comprehension of the core issue. A neutral facilitator helps team members rally around the real problem — deepening group understanding,



Creative Thinking Enhancers

ASSOCIATING

people are more creative when they’re exposed to ideas from different industries, disciplines, social networks and cultures.

OBSERVING

enhances the linking and bridging process that’s the foundation of creativity.

QUESTIONING

helps determine customer needs and product or service features.

NETWORKING

disparate thought worlds provide disparate perspectives on and potential solutions to problems.

TEAMING

generating ideas in diverse groups that reframe ideas and engage in structured problem solving.

EXPERIMENTING

building a prototype product or introducing a pilot program.

IMPROVISING

creative people embrace unexpected branches from their initial plans and know how to make it up as they go along.

INCUBATING

ideas need time to percolate.



Creative Thinking BARRIERS

TIME

if managers always are busy executing, they don't have time to engage in creative behaviors.

TRUST

because creativity involves a lot of uncertainty, questions, trial and error, and failure, employees must trust that they won't be unfairly criticized or reprimanded if they make mistakes.

TURF

creativity requires a willingness to share ideas and perspectives, which won't happen if a co-worker guards his or her turf.

TITLE

people tend to be less creative when they're concerned about status or when a group meeting is co-opted by the person with the most senior title.

TIDINESS

creativity is messy, and while it may seem counterintuitive, too much "tidy" planning can dampen creativity

limiting power struggles or turf battles and promoting trusting exchanges. The net result is the team spends more time developing creative solutions that actually address the problem at hand.

IS THERE AN OPTIMAL ORGANIZATIONAL STRUCTURE FOR CREATIVE THINKING?

Sawyer: This is a complex question, and it's the holy grail of innovation research. Innovative organizations accomplish three things that are difficult for traditional organizations: They get everyone to participate in creative idea development. They provide a system, process or mechanism for "heretical" concepts to be discussed. And they dedicate resources to innovation.

Baer: Work spaces that are built to encourage random interactions and conversations among employees from all functions foster creative thinking.

"Olin's curriculum prepares MBAs to be rock-solid analytically. But students also need to internalize behaviors that help them and the companies they work for create as well as capture value." Stuart Bunderson

WHAT WILL MBA STUDENTS TAKE AWAY FROM OLIN'S NEW ELECTIVE COURSE ON CREATIVE THINKING?

Bunderson: Olin's curriculum prepares MBAs to be rock-solid analytically. But students also need to internalize behaviors that help them and the companies they work for create as well as capture value. "Creative Thinking and Leading the Creative Organization" teaches students how to build creative habits into their work routines, lead in ways that foster creativity and form realistic expectations for the amount of effort it takes to generate innovative solutions.

Baer: Students who take the course will be better at re-envisioning a company's current products and services and envisioning future offerings.

THE COURSE INCLUDES A SECTION ON IMPROVISATION TRAINING.

Baer: We're actually looking at bringing in some improvisational theater or improvisational comedy folks because they're really good at this.

Sawyer: I'm extremely interested in the group flow that occurs in improvisational theater and in jazz — and group flow's implications to management. Many business scholars argue that innovative organizations are effective at improvising, and most of these scholars use jazz as their metaphor. I've extended the metaphor by studying improvisational theater and by showing how organizations can learn from its artistry.

HOW DOES CREATIVE THINKING COMPLEMENT CRITICAL THINKING?

Bunderson: Creative thinking and critical thinking are the two sides of a value-creation coin. Creative thinking is divergent. It's about rethinking current approaches and opening up new possibilities. Critical thinking is convergent. It's about rigorously choosing from among alternatives. Neither should operate in isolation.

Divergence without convergence leads to unrealized possibilities. Convergence without divergence leads to efficient obsolescence. Healthy companies — and valuable managers — have learned to manage the tension between the two ways of thinking.

Sawyer: Employers list both creative and critical thinking as 21st-century skills all schools should teach in addition to specific subject areas and content knowledge. The difference can be subtle. In general, critical thinking is more useful when a problem is clearly specified and well-formulated. Creative thinking, on the other hand, is more useful when the nature of a problem isn't clear or the outline of a problem isn't well-known.

Baer: Preparing students — and business leaders — to think critically and creatively will be a unique calling card for Olin.

Creative Thinking in Action



DR. MARY JO GORMAN, EMBA '96
Co-founder & CEO
ADVANCED ICU CARE
St. Louis

"Creative thinking is an essential part of the problem-solving process," says Dr. Mary Jo Gorman. "Advanced ICU Care still is in the early growth stage, and the time we spend on creative idea generation makes us smarter better and faster."

Delivering innovative solutions has brought Gorman national recognition. In 2009, Modern Healthcare magazine named her one of its "Top 25 Women in Healthcare."

Gorman's company employs expert clinicians, sophisticated telemedicine technology and tested quality-improvement strategies to provide patients with round-the-clock intensive care services. The firm works with 20 community hospitals in nine states, helping the institutions save lives, reduce complications and make treatment more efficient.

Gorman holds regular meetings with her senior staff to explore new lines of business and ways the company could leverage its best practices. "We toss out ideas, debate pros and cons, prioritize suggestions, and decide as a group which ideas we want to implement."

"If an idea has legs, we try to pilot it before we roll it out to all our hospitals," she says.



WADE MIQUELON, MBA '89
Executive Vice President & CFO
WALGREENS
Deerfield, Ill.

In a constantly changing business world, "necessity really is the mother of invention," says Wade Miquelon. "The voice of the customer drives creative thinking at Walgreens. When we combine what's needed with what's possible, great things happen."

Known for its innovation, Walgreens has pioneered many practices, products and services that set the standard for the pharmaceutical industry — including a nationwide computer network that connects all the firm's pharmacies, drive-through pharmacies, in-store Take Care Clinics, on-campus clinics for businesses and OptionCare infusion and respiratory therapies and home medical equipment.

Miquelon says Walgreens' big ideas tie into its ability to leverage assets.

"We have a trusted brand and an excellent balance sheet. So we constantly ask ourselves how we can build on these strengths."

A cross-functional team of Walgreens executives evaluates "initiative rockets" during monthly innovation forums. "All business units are involved," Miquelon says. "Diversity of thought and experience has enabled our history of creativity."



ASHA LUNDAL, PMBA '00
Former Director, New Business Development, U.S. Seeds & Traits
MONSANTO
St. Louis

"What got us where we are today won't necessarily get us where we want to be tomorrow," Asha Lundal says. "To stay competitive, we have to be proactive about the value we create for customers."

Creative thinking is fundamental to Monsanto, an innovation powerhouse that spends \$1 billion a year on research and development.

"To generate new ideas, Monsanto listens to farmers and looks for solutions to their problems," Lundal says. "As a company, Monsanto makes an ongoing effort to put cross-functional groups together to explore macro trends and emerging issues that affect customers — along with unique ways Monsanto can meet these challenges."

One example is Biotechnology Endorsement (BE), an idea developed by a team that included Lundal. With BE, farmers in 12 states qualify for lower premiums on government-regulated crop insurance if they use agricultural products proven to lower their risk profile. In 2009, farmers on the pilot plan saved, on average, more than \$4 per acre and more than \$50 million in premiums combined.



CORY SHADE, JD '89, MBA '91
Senior Vice President & General Counsel
PERRY ELLIS INTERNATIONAL
Miami

"Strong, iconic brands differentiate Perry Ellis International in the marketplace," says Cory Shade. "So we're all about creative thinking. It enables us to stay ahead of the fashion curve."

Shade says the eight creative-thinking behaviors identified by Professor Bunderson encourage managers "to think outside the box, promote open dialogue, experiment and get behind promising ideas."

Always on the lookout for new trends, team members noticed Munsingwear golf shirts were being bought in U.S. thrift stores and sold in Japan for high prices. The shirts — with their recognizable penguin logo — were extremely popular from the 1950s to 1970s and were worn by high-profile figures such as Bing Crosby, Frank Sinatra, Arnold Palmer and John F. Kennedy.

"These were clothing items that had fallen into the back of people's closets," Shade says. "We repositioned the shirts as a lifestyle brand that is American, vintage and cool. Original Penguin, relaunched in 2003, has become one of the jewels of our portfolio — a top seller in Europe, South America and the United States. Now the shirts are worn by modern-day celebrities like Brad Pitt and Jake Gyllenhaal."