

Seven Innovation Myths

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Large, global corporations should be the innovation leaders. Generally, however, they are not. They have the resources to lead change, so why don't they? Part of the answer lies in how managers think about innovation. At the Kellogg School of Management, we have been working with over 20 global companies to understand innovation management in large businesses. Through conversations with managers and a survey of academic research on the issue, we have uncovered a number of myths surrounding innovation. To master innovation at your company, a good starting point is to understand and debunk these myths. Let's look at seven common "Innovation Myths" as a way to shed light on what innovation really is, and how it should be managed.

Myth: You need more new ideas.

Reality: You need more homes for ideas.

Managers often lament the paucity of innovative ideas in their business. Their logic: ideas are like frog eggs – thousands are laid, but only a few hatch. This logic suggests that businesses need lots of new ideas if a few are to evolve into profitable innovations. However, this logic is seriously flawed: to get more tadpoles, you don't need more eggs – you need better incubators. Most companies have enough ideas germinating in the minds of their employees but lack the mechanisms to act on them. If your employees often don't know where to turn for resources and funding to develop their ideas, eventually their creativity will dry up.

Consider the experience of Boeing in its military business. A small team led by engineer

Andy Garcia came up with an idea for a "Slipper pallet", a loading mechanism that more

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than doubled the capacity of Boeing's C-17 aircraft to transport ammunition containers for the US Army. Despite the Army's enthusiasm for the idea, it didn't fit clearly within any of Boeing's business units and the Slipper project languished on the verge of cancellation. Luckily for Garcia, Boeing had created a program called the Chairman's Innovation Initiative to fund and develop innovative ideas from employees through an internal venture arm called Boeing Ventures. Boeing Ventures took the Slipper project under its wing, providing funding and guidance through business validation and prototyping. Eventually, Boeing's Airlift & Tanker unit recognised the potential. Slipper has since become a multimillion dollar military product with derivative commercial prospects. Talking about this experience, Anil Shrikhande, then vice-president of Boeing Ventures, observed: "There needs to be a mechanism – not just money but a life support system - for creative ideas that are invariably bubbling up inside a large organisation but often have nowhere to go." The moral of the story – you don't need more new seeds. What you need is fertile ground where existing seeds can germinate and grow.

Myth: Innovation is a department.

Reality: Innovation is a company-wide competency.

Dedicated innovation organisations are important to encouraging innovation, and can even be critical to success. However, innovation is too important to be left to one department. Innovation is a mindset that must permeate every branch of the company, and innovation competencies must become an integral part of every department's activities.

Relying exclusively on R&D or new product development neglects the insights and capabilities of the company at large. The fact is that every department can and should innovate. Questioning the status quo should be part of every employee's job. This is what John Chambers, the CEO of Cisco Systems has done in challenging all functional areas at the company to apply internet capabilities to innovate their business processes. The result –

over \$2bn added to the bottom-line in 2003, and innovations such as Virtual Close, a product that streamlines financial processes using the internet – means the finance function can close its books and produce financial reports in virtually zero time.

But it is not easy to get everyone to participate in innovation. Toby Redshaw, Motorola's Corporate Vice President for IT Strategy, Architecture and eBusiness, has spent three years integrating the IT function into its business unit innovation efforts. At first, business unit managers wondered what the corporate IT function had to do with innovation— a curious question in a company whose key customers are often corporate IT organisations.

Motorola's IT function gained access and credibility as it proved its ability to contribute, from software development for new products to partnership roles for Motorola's corporate ventures program. Rather than diluting focus, innovation integration has accelerated the Corporate IT function's understanding of Motorola's businesses. Mr Redshaw advises:

“When people from across the [company] understand innovation as a core business value, then it can become a competency – not before.” Innovation is the competency to combine market-winning ideas with capabilities wherever they exist.

Myth: Let people loose to innovate.

Reality: Enable people through structure and process.

Ideas are often serendipitous. Innovation is not. You should give employees the freedom to imagine, but then provide them structure to act. Structure and process do not have to be the enemies of innovation. Just enough structure and process can actually facilitate innovation, particularly if your firm is not genetically predisposed towards innovation.

A popular belief, fostered by legendary innovators such as 3M, the diversified manufacturer, is that you should let employees moonlight on the job, by giving them free time to work on innovative projects. Google, the internet search company, encourages its people to spend one day a week working on pet projects – that is, 20 per cent of the company time. Such an

ad-hoc approach might work for a company that is innovative by design, but it would be disastrous at large bureaucratic organisations with deep silos. If you let people loose in these types of businesses, they will keep running into walls that separate functions, business units and levels of management. Dr Nelson Levy, CEO of CoreTechs Corporation, a technology consultancy, recommends: “You may as well give everyone the day off.”

Here’s an interesting insight – you need to combat structure with structure. If you have a large organisation with poor lateral coordination, you need to create innovation structures and formal linkages to bridge functional and business unit silos. Dow Chemical Company has accomplished this by creating several formal structures and processes to facilitate innovation. Dow’s Growth Center acts as a resource centre for intrapreneurs at Dow, providing funding and loaner staff to the business units. It promotes connections among people, ideas and resources that would not happen serendipitously. Dow’s Growth Board, consisting of senior business leaders, provides leadership and oversight on innovation and approves funding for more capital-intensive projects. Dow’s Business Growth Network is a cross-business unit organisation with members from various business units, whose charter is to approve projects and provide mentoring to aspiring innovators. And Dow’s Growth Network is a business-unit level organisation that meets informally to discuss ideas on which people are working. Dow understands that, in a firm with silos, you need to build lots of bridges.

Myth: Innovation is a radical departure from the past.

Reality: Innovation often creatively combines pieces of the past.

When we think about breakthrough innovations, we imagine lone inventors such as Thomas Edison devising radical innovations like the light bulb. In practice, innovation rarely happens in a vacuum. Often, successful innovations creatively combine elements of the past – a concept that Andrew Hargadon terms “recombinant innovation” in his book *How*

Breakthroughs Happen. Edison's lighting system combined elements of the telegraph, the arc light and even the existing gas light industry. The telephone network piggybacked upon the railroads to build telephone lines, and the internet in turn used the telephone network to transmit data. And now, electric utility wires are being used to transmit high-speed data. In more recent times, Apple Computer has revolutionised the portable digital music industry with its iPod personal music player and the iTunes online music store. However, Apple was not the first to come up with digital music or portable digital players. What Apple did was to create the best combination of an easy-to-use music player and conveniently priced online music. There was nothing radical about the technology but Apple did create breakthrough *value* for customers by creating the best digital music solution.

Contrast this with Apple's infamous failure – the Apple Newton personal digital assistant. The Newton was a technological marvel, featuring handwriting recognition, a new operating system and a host of other advances. However, it was a miserable failure because customers failed to see the value. The insight: radical innovations are often not successful, and the most successful innovations are often not radical. You don't need to be the first to solve a problem. You need to be the first to create the right solution – a solution that borrows elements from past innovations to unlock new value for customers.

Myth: Mistakes are costly.

Reality: Early mistakes are profitable.

Equating project cancellation with failure represents one of the most dysfunctional characteristics of many corporate cultures. Where cancellation equals failure, managers will often do whatever necessary to avoid their own projects being killed, even if the facts recommend otherwise. And they will be reluctant to embark on projects deemed to be risky because mistakes are frowned upon. But innovation and risk go hand in hand. Mistakes are

the handmaidens of success. As Wayne Gretzky, the legendary ice hockey player, once declared: “You will miss 100 per cent of the shots that you don’t attempt.”

Robert A. Cooper, Program Lead for DuPont’s corporate-wide *Knowledge Intensive University*, advises: “Don’t manage the risk of failure. Manage the cost of failure.” In other words, successful innovators don’t avoid making mistakes. In fact, they make lots of mistakes. But they make mistakes cheaply. And they make them early in the game. Successful innovators try lots of experiments in the early stages of opportunity development, using quick-and-dirty prototypes to rapidly test and refine ideas as they progress along the opportunity development process.

Consider how Toyota, the automobile manufacturer, tolerates ambiguity and encourages experimentation to design better automobiles. The company often creates parallel development teams to work on design concepts for new cars, recognising upfront that only one will be chosen. However, the cost of redundancy is more than offset by the fact that Toyota is able to explore a wider variety of design concepts at a relatively low cost in the early stages of product development. Toyota understands that the greater risk is not walking down the wrong path, but the path not chosen.

Myth: Avoid the detours.

Reality: Detours may be the destination.

All the management consulting talk about core competencies fuels another innovation myth – stay focused on the road ahead, and don’t get distracted by detours. However, too much focus on the road ahead can be dangerous, because it impairs your company’s peripheral vision. Sometimes, what seems like a detour actually may become the main road. For example, despite the incessant search for the “killer application”, nobody really knows where an innovative technology will eventually find its niche. Lasers were initially created as accurate measurement tools, but they have ended up revolutionising eye surgery and

consumer electronics. Microwaves were created for military communications, but they ended up warming our food in microwave ovens. And who would have thought that ring tones on mobile phones, created as a marketing gimmick for music labels and mobile phone operators, would grow into a \$3.5bn market worldwide by 2003, accounting for almost 10 per cent of the \$32.2bn global music market.

Our favourite example of an unexpected detour becoming a major business involves a transaction monitoring mechanism that was never intended to “innovate”. In the late-1990s, eBay completed a marketing study concluding that consumers did not want to buy and sell automobiles on its site. At about the same time, eBay’s finance function introduced a filter to tease out unusual high-dollar transactions. The filter began surfacing transactions on eBay’s die-cast car model site for \$5,000, \$10,000, even \$20,000. Users were trading actual automobiles on the model car site, since it was the closest eBay category they could find. The research had been misleading, so eBay responded with the introduction of eBay Motors, today one of the company’s highest volume sites. Gil Penchina, eBay’s vice-president for South Europe, recalls: “It was like throwing fuel on existing flames.” So pay attention to those detours – they may be faint signals of the “next big thing”.

Myth: Innovation is about creating new things.

Reality: There are many paths to innovation.

“Innovation” invariably elicits thoughts of new technologies incubating in R&D labs or new products winding their way through new product development. In reality, innovation can take many forms. Starbucks did not invent coffee. But it did create an innovative customer experience, featuring an inviting store environment modelled after a European espresso bar that is becoming the “third place” in consumers’ lives – home, work and Starbucks. Dell’s computers aren’t very different from its competitors. But the direct model it uses to deliver its products to customers has made Dell one of the largest and most profitable computer

companies worldwide. Toyota makes good automobiles, but the real secret of its success is the Toyota Production System (TPS), a set of production principles that the company has honed over several decades to become the world's most productive automobile maker.

Managers must think more broadly about their entire business system when exploring opportunities for innovation. The business system includes not only the "What" (products, technologies and services created), but also the "Who" (customer segments and needs served), "How" (operating processes and capabilities employed) and "Where" (the channels used to go to market). All these dimensions present opportunities for innovation.

DuPont, the chemicals group, has taken this systemic view of innovation to heart by urging its people to think "beyond the molecule", a reference to the company's products and heritage. No longer limited to chemical products (which in many cases are becoming commodities), DuPont casts its net more widely in the search of value, from after-market services and brand equity to financial services and downstream solutions. It has even created a structured process for catalysing broader thinking, the Knowledge Intensive University, which has resulted in billions of dollars worth of new business opportunities.

To explore innovation opportunities more broadly, it is important for managers to take a more holistic view of business innovation. To help managers expand their innovation horizons, we have developed a tool called the Innovation Radar that depicts a company's innovation efforts against 12 key dimensions of the business system. By mapping their innovation efforts along these dimensions, organisations can identify promising new directions for exploring opportunities, and they can benchmark their innovation efforts against their peers and other industries. But perhaps the most important lesson managers learn from the Innovation Radar is that innovation is much more than creating new products or new technologies.

Edwin Land, inventor of the Polaroid camera, observed that “creativity is the sudden cessation of stupidity”. To truly understand innovation, we believe that it is important to disabuse yourself of the myths and misconceptions that surround innovation. So, find better homes for the ideas you already generate. Build an innovation competency. Enable your innovators with just enough structure and process. Leverage the past and focus on what works, not simply what’s new. Encourage people to make lots of early mistakes. Take the scenic route on the way to creating customer value. Think beyond products and technologies in exploring innovation opportunities. By exploding these myths, you will be on your way to mastering innovation.