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The seven myths of innovation

When large corporations approach innovation, their strategies are often based on misconceptions. To develop successful opportunities, managers need to explode these myths and take a more holistic view

Large, global corporations should be the innovation leaders. Generally, however, they are not. They have the resources to lead change, so why do they so often fail to do so? A major reason lies in how managers at big companies think about innovation.

At the Kellogg School of Management, we have been working with over 20 global companies to understand innovation management in large organisations. 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 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. Ideas, so the logic runs, 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 do not need more eggs – you need better incubators. Most companies have plenty of ideas germinating in the minds of their employees but what they lack are the mechanisms to act on them. If your employees do not know where to turn for the resources to develop their ideas, eventually their creativity will dry up.

Consider the experience of Boeing's military business. A small team, led by engineer Andy Garcia, came up with the idea of a "slipper pallet", a loading mechanism that more than doubled the capacity of Boeing's C-17 aircraft to transport ammunition containers. Despite the US army's enthusiasm for the idea, it did not fit clearly within any of Boeing's business units, and so the Slipper project languished on the verge of cancellation.

Luckily for Mr Garcia, Boeing had created the Chairman's Innovation Initiative, a programme to fund and develop innovative ideas from employees through Boeing Ventures, an internal venture arm. Boeing Ventures took the Slipper project under its wing, providing funding and guidance through business validation and prototyping, and eventually, Boeing's airlift and tanker unit recognised the potential. Slipper has since become a multimillion dollar military product with derivative commercial prospects.

The moral of the story is that you do not need more new seeds but fertile ground where existing seeds can germinate and grow.

Myth: Innovation is a department

Reality: Innovation is a company-wide competency

Dedicated innovation departments are important for encouraging innovation and can even be instrumental

to success. However, innovation is far too important to be left to one department. Innovation is a mindset that must permeate every branch of the company. Indeed, every department can and should innovate.

Relying exclusively on R&D or new product development neglects the insights and capabilities of the company at large. 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 his 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 enabling the finance function to close its books and produce reports in virtually zero time.

But it is not easy to get everyone to participate in innovation. Toby Redshaw, corporate vice-president for IT strategy, architecture and e-business at Motorola, has spent three years integrating the IT function into the company's business unit innovation efforts. At first, 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 corporate IT function gained access and credibility as it proved its ability to contribute in areas such as software development for new products and partnership roles for Motorola's corporate ventures programme.

Rather than diluting focus, integration has accelerated the 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 with the structure to act. Structure and process do not have to be the enemies of innovation. Just enough structure and process can actually facilitate the process, particularly if your company 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 – 20 per cent of 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. In fact, you need to combat structure with structure. If you have a large organisation with poor lateral co-ordination, you need to create innovation structures and formal linkages to bridge functional and business unit silos.

A company that understands this is Dow Chemical. As a company with silos, it realises that you need to build lots of bridges. It has accomplished this by creating the following formal structures and processes to facilitate innovation:

Growth Centre: This acts as a resource centre for "intrapreneurs", providing funding and staff on loan to the business units. It promotes connections among people, ideas and resources that would not happen serendipitously.

Growth Board: This consists of senior business leaders, who provide leadership and oversight on innovation and approve funding for more capital-intensive projects.

Business Growth Network: A cross-departmental organisation with members from business units across the company, whose charter is to

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approve projects and provide mentoring to aspiring innovators.

Growth Network: A business-unit level organisation that meets informally to discuss ideas on which people are working.

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, such as the light bulb. In practice, however, innovation rarely happens in a vacuum. Often, successful innovations creatively combine elements of the past – a concept that the management writer Andrew Hargadon terms “recombinant innovation”. Edison’s lighting system combined elements of the telegraph, the arc light and even the existing gas light industry. The telephone network piggybacked on 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.

More recently, 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. Apple merely created 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 the Apple Newton personal digital assistant, the company’s infamous failure. The Newton was a technological marvel, featuring handwriting recognition, a new operating system and a host of other advances. However, customers failed to see the value. The conclusion to be drawn is that 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. In such an environment, managers will often do whatever is 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, programme leader for the Knowledge Intensive

University, Dupont’s corporate-wide process designed to encourage broader thinking, advises: “Don’t manage the risk of failure. Manage the cost of failure.” In other words, successful innovators do not avoid making mistakes. In fact, they make lots of mistakes, but they make them cheaply and early in the game. Successful innovators experiment in the early stages of opportunity development, using quick and dirty prototypes to test and refine ideas rapidly as they progress along the opportunity development process.

Consider how Toyota, the car 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. The company 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 myth – stay focused on the road ahead and do not get distracted by detours. But focusing on the road ahead can be dangerous if it impairs your company’s peripheral vision. Sometimes, 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 created as accurate measurement tools, but they have ended up revolutionising eye surgery and consumer electronics. Microwaves were designed for military communications, but they ended up warming our food in microwave ovens. And who would have thought that ringtones on mobile phones, created as a marketing gimmick for music labels and phone operators, would grow by 2003 into a \$3.5bn market, which represents almost 10 per cent of the \$32bn global music market?

Our favourite example of a detour becoming a major business is a transaction monitoring mechanism that was never intended to “innovate”. In the late 1990s, eBay concluded from a marketing study 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 and 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, which today is one of the company’s highest-volume sites.

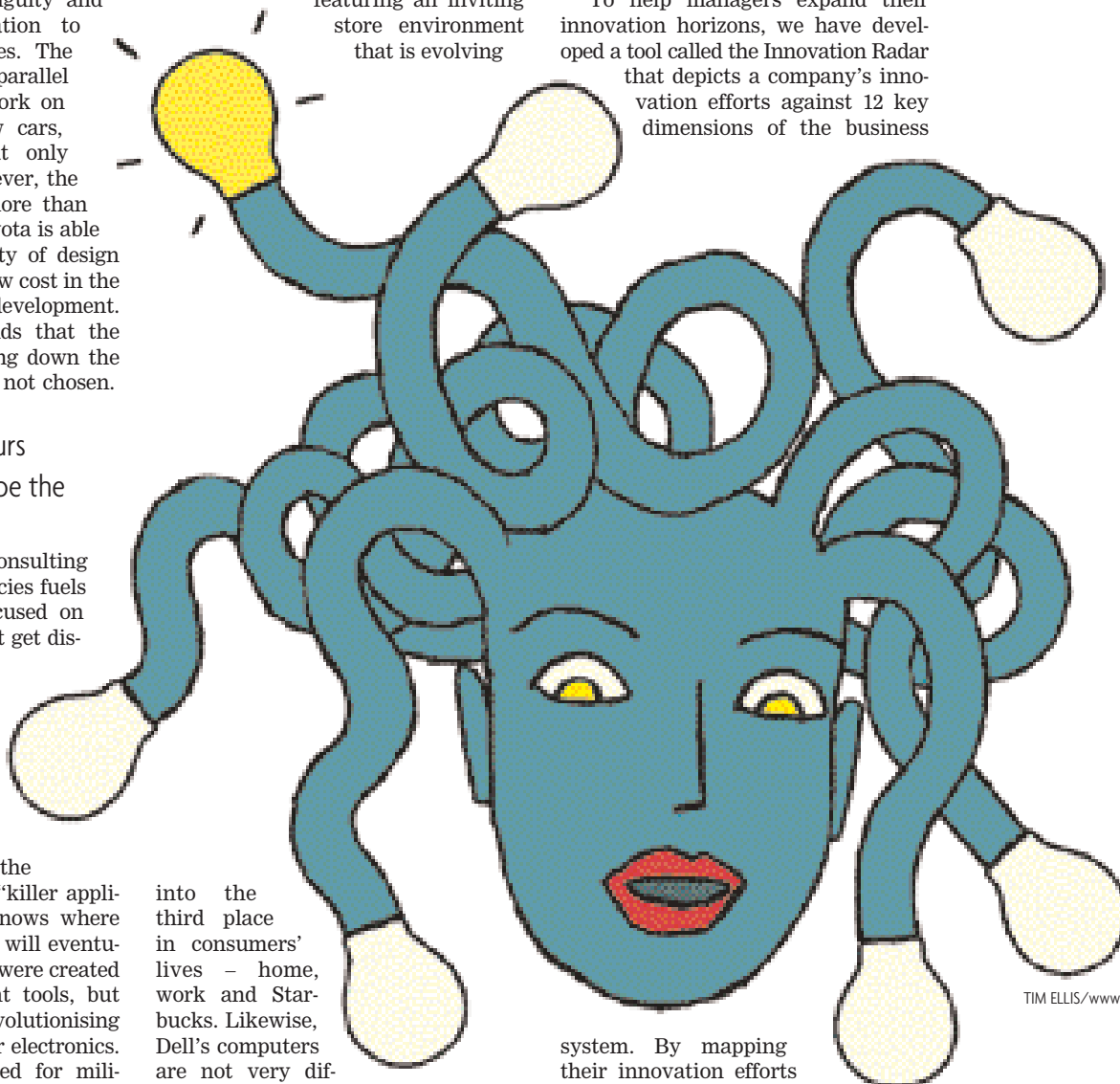
So, pay attention to those detours – they may be faint signals of the “next big thing”.

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.

For instance, Starbucks did not invent coffee but it did create an innovative customer experience, featuring an inviting store environment that is evolving



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into the third place in consumers’ lives – home, work and Starbucks. Likewise, Dell’s computers are not very different from those of its competitors. But the model it uses to deliver its products directly to customers has made it one of the largest and most profitable computer companies in the world.

Similarly, Toyota makes good cars, but the real secret of its success is the Toyota production system, a set of production principles that the company has honed over several decades to become the world’s most productive car 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 of 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 search of value, from after-market services and brand equity to financial services and downstream solutions. This explains why the company created the Knowledge Intensive University, which has resulted in billions of dollars worth of new business opportunities.

◆ **The Innovation Radar**

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, noted 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 is 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.



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