have a large pool of domestic customers—many of whom have only just begun consuming and do not have the same high expectations as Western customers typically have. Chinese and Indian companies can practise on their domestic customers while they improve quality to the point they can begin to export. South Korean firms have already gone through much the same process with consumer-electronics and cars—and in the process have frightened many of their Japanese rivals.

Snap, and it’s too late
In a sense, Mr Christensen’s management myths echo a sentiment expressed by Edwin Land, the inventor who founded Polaroid. “People who seem to have had a new idea have often simply stopped having an old idea,” he said. Alas, his successors at Polaroid did not pay attention. The firm stuck by its successful old idea for film-based instant photography and stubbornly ignored the disruptive potential of digital imaging until it was too late. Polaroid went bust in 2001.

Mr Christensen’s alternative innovation strategies include watching out for new technologies or new business models which are designed to attract customers who may not be using your product today because it too expensive or too complicated. Sony’s early transistor radios were tinny compared with RCA’s big home versions, but teenagers who never had radios loved these cheap devices.

He also thinks it is better to make things simpler and easier for the bottom and middle of the market, as personal computers did, rather than add needless bells and whistles for the handful of top customers who can afford and demand them. And he says companies should act decisively to co-opt or pre-empt disruptive ideas themselves, even if it threatens their core businesses in the short run.

Executives at US Steel, a traditional integrated steel-firm nervously eyeing the threat from new mini-mill technology, nearly built a cheap and cheerful mini-mill themselves to compete against the upstart Nucor. However, recounts Mr Christensen, those aspiring innovators within US Steel were forced to halt the profitable project by bean counters, who argued that it was cheaper just to produce more steel from the firm’s existing blast furnaces (since their capital costs had been paid for and steel could be produced for merely the marginal cost of cranking out an extra tonne). That short-term thinking scuppered the giant firm’s best chance for re-inventing itself.

Peter Drucker, an eminent management guru, argued decades ago that innovation and entrepreneurship are “purposeful tasks that can be organised—are in need of being organised” and should be treated as part of an executive’s job.

Is there a risk that with too many rules, firms could lose out to serendipity? Ask Mr Laflay how he intends to keep P&G’s edge if innovation becomes less ad hoc and he immediately points to Toyota’s embrace of total-quality management as a model. Many firms have studied the Japanese carmaker’s legendary methods, as P&G’s rivals are even now studying its innovation model, but none has really been able to copy it. That is because Toyota’s real edge is the strong culture which drives its unrelenting quest for quality.

Bill Reinert, a senior Toyota official based in North America, explains it thus: “What’s discontinuous about our firm is the very long view of management. That vision has pushed us from being a closed company to one with continuous information flows, both into the company and within it, about market, regulatory and geopolitical trends.”

A symbol of this is Toyota’s Prius hybrid-electric car. It was a risky bet on an unproven technology, but it has been a huge success. It was a long-term vision, says Mr Reinert, that overcame the firm’s innate caution. And in the future the company is going to have to make similar bets again. “We are convinced that we are entering a disruptive future, and we want to be ready for it,” he says. He is not alone in taking that view.

The love-in

The move toward open innovation is beginning to transform entire industries

BERKELEY seems like a fitting place to find the godfather of the open-innovation movement basking in glory. The Californian village was, after all, at the very heart of the anti-establishment movement of the 1960s and has spawned plenty of radical thinkers. One of them, Henry Chesbrough, a business professor at the University of California at Berkeley, observes with a smile that “this is the 40th anniversary of the Summer of Love.”

Mr Chesbrough’s two books “Open Innovation” and “Open Business Models” have popularised the notion of looking for bright ideas outside of an organisation. As the concept of open innovation has become ever more fashionable, the corporate R&D lab has become decreasingly relevant. Most ideas don’t come from there (see chart 4 on next page).

To see why travel to Cincinnati, Ohio—which is about as far removed culturally from Berkeley as one can get in America. The conservative mid-western city is home to P&G, historically one of the most traditional firms in America. For decades, the company that brought the world Ivory soap, Crest toothpaste and Ariel detergent had a closed innovation process, centred around its own secretive R&D operations.

No longer. P&G has radically altered the way it came up with new ideas and products. It now welcomes and works with universities, suppliers and outside inventors. It also offers them a share in the rewards. In less than a decade, P&G has increased the proportion of new-product ideas originating from outside of the firm from less than a fifth to around half. That has boosted innovation and, says its boss, Mr Laflay, is the main reason why P&G has been able to grow at 6% a year between 2001 and 2006, tripling annual profits to $8.6 billion. The company now has a market capitalisation of over $200 billion.

IBM is another iconic firm that has jumped on the open-innovation bandwagon. The once-secretive company has done a sharp U-turn and embraced Linux, an open-source software language. IBM now gushes about being part of the “open-innovation community”, yielding hundreds of software patents to the “creative commons” rather than registering them for itself. However, it also continues to take out patents at a record pace in other areas, such as advanced materials, and in the pro-
cess racks up some $1 billion a year in licensing fees.

Since an army of programmers around the world work on developing Linux essentially at no cost, IBM now has an extremely cheap and robust operating system. It makes money by providing its clients with services that support the use of Linux—and charging them for it. Using open-source software saves IBM a whopping $400m a year, according to Paul Horn, until recently the firm’s head of research. The company is so committed to openness that it now carries out occasional “online jam sessions” during which tens of thousands of its employees exchange ideas in a mass form of brainstorming.

Mr Chesbrough, of course, heartily approves. He gives dozens of other examples of firms doing similar things, ranging from Clorox, a household products firm to Air Products, an industrial gases company. Mr Morse, head of MIT’s Entrepreneurship Centre, scoffs at IBM’s claim to be an open company: “They’re open only in markets, like software, where they have fallen behind. In hardware markets, where they have the lead, they are extremely closed.”

Open costs

David Gann and Linus Dahlander, of London’s Imperial College, are also sceptical. They argue that firms have always been open to some degree and that the benefits differ depending on their line of business. Those using older technologies, for instance, may benefit less. They also point out that the costs of open innovation, in management distraction or lost intellectual-property rights, are not nearly as well studied as its putative benefits.

Yet another critique comes from capital-intensive industries, where products take a long time to develop and remain on sale for years. Toyota’s Mr Reinert laughs when asked about open innovation. With the billions of dollars his firm spends on research and on equipping its factories—not to mention a five-year product-development cycle—he suggests it would be foolish to open up and allow rivals to steal its edge. “Eventually even Google will have to make something tangible, and when they do they will protect it—just like Tesla Motors, which does not have an open model,” he adds.

GP’s Mr Immelt observes that his firm is a leader in a number of fields, such as making jet engines and locomotives, which requires “doing things that almost nobody else in the world can do” and where intellectual-property rights and a degree of secrecy still matter. Mark Little, his head of research, is even more sceptical and says outside ideas “don’t really stick well here”. He professes great satisfaction with the output of GE’s own research laboratories. “We’re pretty happy with the hand we’ve got,” he adds.

Horses for courses, perhaps. Boosters of open-innovation agree that there are perils. One of them is that it is not easy to work with outsiders. Corporate cultures can sometimes clash and some outsiders are not used to working in a business environment. For example, P&G has a “co-invention” lab with BASF, a German chemicals giant with its own strong corporate culture. Boffins from the American government’s prestigious Los Alamos national laboratory also sit in on some of P&G’s research-planning sessions. The consumer products firm believes that the benefits of working with people from such diverse organisations are worth the effort.

For one thing, patents are becoming much less important nowadays than brands and the speed at which products can be got to market. It is true that some of the rising stars in developing economies are beginning to take out more patents, but many of their innovations are still kept quiet as trade secrets. So fluid are their markets, and so weak the historical patent-protection in them, that bosses often prefer to keep things in the dark—and come up with the next innovation as necessary to stay ahead of the competition.

Even in developed markets, the acceleration of innovation is making patents less relevant. What is more, say brand experts at P&G (which claims not even to count patents any longer), the dizzying pace of change today confuses consumers with a baffling array of choices. Such firms are increasingly turning to trusted brands to simplify things for their customers. Andrew Herbert, head of Microsoft’s research centre in Cambridge, England, puts it this way: “Our brand hides a tremendous amount of innovation.”

Open innovation also appears to keep corporate bureaucrats on their toes, making companies better at competing. The combination of exciting new technologies and juiced-up management processes has, according to Mr Laflay, helped P&G to reduce its rate of failed product-launches from eight out of ten to just half.

Unilever’s David Duncan insists that his firm—one of P&G’s biggest competitors—is much better connected to its customers than it was. “Twelve years ago, when I joined, we were very closed, vertically integrated and owned most of the value chain—even the chemicals and software we used,” he says. Now it is much more receptive to ideas and services from the outside, even posting challenges on the internet for people to come up with new ideas. But he too confesses that there can be difficulties: “it’s like the first time you used Google; it was scary and a bit tricky, but soon you see that it’s great.”

So how do you know if open innovation will work for a particular company? It may well depend not just on what a company does but also on how it is perceived in the market. Hal Sirkin, of the Boston Consulting Group, suggests that rather than see firms like P&G and IBM as truly open innovators, it is better to view them as “beacons”. They have enough world-class experts working for them to attract outsiders who have brilliant ideas. Such firms are “open” in the sense that they are now casting a very wide net in their search for ideas. However, once they have captured the essence of those ideas, argues Mr Sirkin, “they control them and the process of getting them to market.”

At your service

On a summer’s day in east London, a warehouse was taken over by a company eager to make a splash. It was decked out to look like a cool New York loft. The Ministry of Sound, a London nightclub, was hired for a party afterwards. The event was packed
with journalists. At last the stars took to the stage—a group of besuited Nokia executives there to announce a dramatic change in corporate strategy.

Nokia, a Finnish company, makes mobile-phone handsets which are used by nearly a billion people around the world. However, it now wants to be a services firm. Why? Niklas Savander, of Nokia, argues that the mobile-phone business “is moving so rapidly, thanks to the democratisation of the internet, that we must innovate or die.” Providing people with devices alone is not enough, the company has concluded.

With half of the value and most of the innovation in a mobile-phone handset now made up of software, “the leap to services is not so great as it seems,” he adds. Nokia is now rolling out Ovi, a branded service offering users networked gaming, music downloads and other services from their handsets.

Visionary companies need to do even more than that, argues a report by C.K. Prahalad and Venkataram Ramaswamy, two academics at the University of Michigan. They think firms should cultivate a network that includes consumers in which “personalised, evolvable experiences are the goal, and products and services evolve as a means to that end.” That sounds fluffy enough to have come straight from the Summer of Love.

Yet despite the dangers, some companies have successfully brought consumers and others into the innovation process. Lego, the Danish maker of children’s building blocks did it; and it helped revive the company. Influenced by research done at MIT on how children learn, Lego launched Mindstorms, a robotics kit that allows people to design their own robots and other devices. Numerous websites have popped up as users—including many adults—come up with all sorts of ways of putting together the kit to make things ranging from intruder alarms, sorting machines and even the controls for small unmanned aircraft.

Eric Von Hippel, of MIT, has long advocated user-driven innovation. He says you can see it all around you. Users who feel passionate about certain products often fiddle around with them because they fail to provide exactly what they want. It might be a mountain bike, a kayak or even a car. He reckons open innovation misses the point if it is not inspired by users, because companies are then “just talking about a market for intellectual property rights, it’s still the old model.”

Mr Von Hippel thinks that firms that are close to their lead users can come up with much better designs for new products and get them to market faster. This advice appears to contradict what Harvard’s Mr Christensen says, but in fact the two theses are compatible. Mr Christensen’s point is that firms should not uncritically cater to the demands of their most profitable current customers. They must question those demands or they could end up doing little more than gold-plating their current offerings; like Mr Von Hippel, he thinks firms should keep a closer watch on new and dissatisfied users, who are much more likely to be the source of disruptive ideas.

Invented on Facebook
Mr Von Hippel adds that networks of hyper-critical users can even help firms quickly filter out bad ideas and thus encourage the process of fast failing. The craze for social networking sites, like Facebook and MySpace, could be useful. Sinan Aral, of the Stern business school at New York University, argues that how people relate to the products they use (something often discussed on such sites) reveals a social structure and preferences. That can help firms understand more about their customers and how to market products more effectively.

User networks operate in many businesses. OnStar, a mobile-information system widely launched by GM in 2000, was initially meant only to provide safety and emergency services for drivers. But motorists wanted it to do more, and they pushed GM to innovate. Now OnStar can check if a car is working properly, open the doors for a driver who accidentally locks the keys inside and even locate the nearest pizza place. GM’s Larry Burns believes OnStar helps to improve his firm’s brand loyalty because it keeps the company in constant touch with its customers.

Richard Lyons, of Goldman Sachs, offers the most compelling argument for firms to think hard about recruiting users to speed up and improve their innovation efforts. In rich countries about four-fifths of economic activity now involves services, but profit margins are eroding. He argues in a new paper that “commoditisation often occurs even faster in services than in physical products”, because innovations are easier to copy, patents can provide less protection, up-front costs are lower and product cycles are shorter.

For a business that uses open and networked innovation, it matters less where ideas are invented. Managers need to focus on extracting value from ideas, wherever they come from. Unfortunately government planners, who are often obsessed with national innovation policies and the need to create clusters like Silicon Valley, have not learnt this lesson. History also shows that countries that come up with new technologies are often not the ones that commercialise or popularise those inventions. Richard Halkett, of Nesta, a British research body devoted to innovation policy, jokes that the right policy for governments should be “never invented here”. He may be right.