

Building an innovation engine

Disruptive innovation enables companies to do business in ways they never could before, but its turbulent track record promotes scepticism among managers. New research shows how to harness its strategic value for the long-term by following a three-step blueprint.

Think 'innovation' and the chances are you think start-up business before you think FTSE100 organisation. Conventional wisdom has it that large companies are too bureaucratic, too invested in the status quo, and too focused on the next earnings report to do more than tweak a new product once in a while.

A visit to the labs at Johnson & Johnson would help you see things differently. Large organisations can innovate – and even disrupt entire markets – if they take the right approach. A case in point: in April 2002, J&J won approval from European regulators to launch its drug-coated stents – the tiny wire tubes that keep blood vessels open after balloon angioplasty – making the company first to market in a category that it created by combining pharmaceutical and medical-device technologies. Industry observers expect the new products to reshape the fast-growing market for stents as surely as the minivan reshaped the automotive business. Some analysts reckon the new stents, whose coating of a naturally-occurring antibiotic prevents scar-like tissue from growing back after surgery, will bring J&J more than \$1bn in annualised sales by the end of 2003.

J&J is an unusually successful innovator. But it is also rare. In a recent Bain & Company survey of more than 200 global senior executives, 91 per cent said increasing their companies' capacity for innovation was critical to driving growth and competitive advantage. But only about one-third of the executives said they were satisfied with their ability to innovate successfully and repeatedly. Those who point proudly to well-funded labs and new

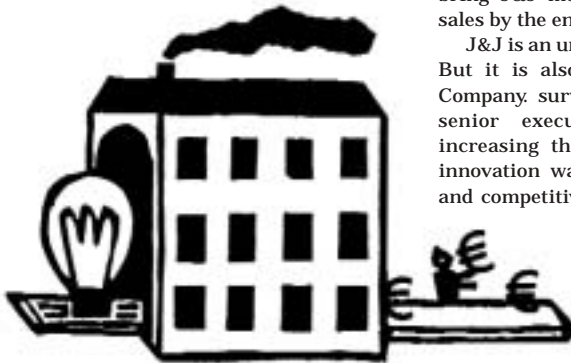
product streams are usually pointing to 'sustaining innovations' – satisfying existing customers by improving the performance of, say, an automobile engine or a software application. Truly disruptive innovations – drastically cheaper, simpler innovations that woo new users and create new markets – are much more elusive. They often make enemies of managers who view them as threats to current products.

Innovators like J&J succeed by relying on systems, not serendipity. They build enduring 'innovation engines'. And far from viewing innovation through not-invented-here lenses, they display a willingness to traffic in new ideas.

In his 1997 best-seller: *The Innovator's Dilemma: When New Technologies Cause Great Firms To Fail*, Harvard Business School professor Clayton Christensen noted that time and again, incumbents failed to see disruptions coming until it was too late. The telegraph radically altered the speed and scale of communications, eliminating other sectors, like the Pony Express. Overnight-package delivery hurt postal systems worldwide. Disruptive innovations have huge upside (if you catch them) and downside (if you don't, but someone else does).

Today, managers may know they need to innovate aggressively, but they put forward three reasons for not doing so:

- Turbulent economic conditions put the focus on cutting costs;
- The very public failures of potential disruptors – think Internet startups – make innovation seem less urgent;
- It's difficult to earn a decent return when disruptions are so hard to implement. As one top executive said recently, "I'm a



firm believer in the disruption concepts, but I'm increasingly sceptical that they can be implemented in our company."

How, practically, can companies get beyond the scepticism? Bain and Company's research and experience points to the following three-part blueprint for building disruptive-innovation processes into your organisation.

1. Match your response to disruption realities

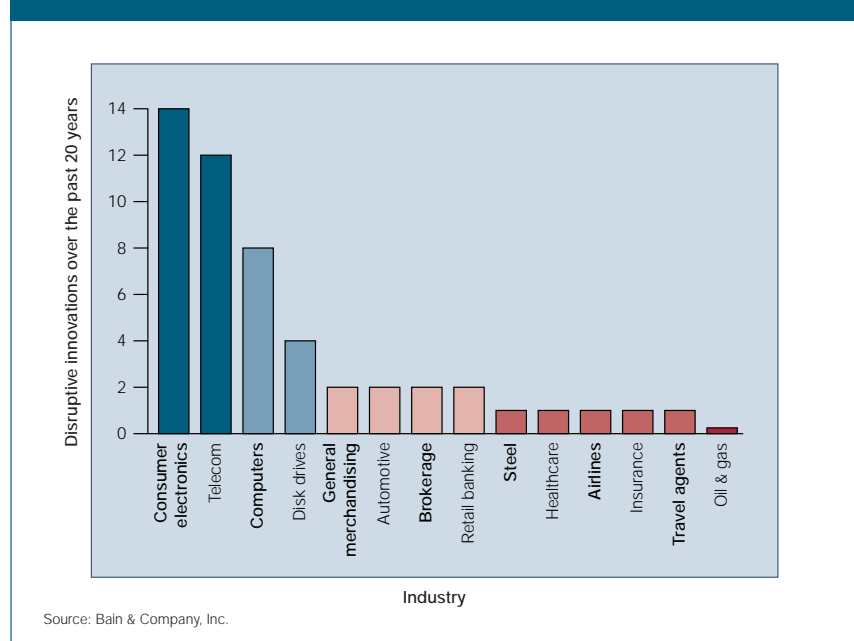
If your industry doesn't generate waves of new products, you might assume that disruption won't happen to you. Steel companies made similar assumptions – before minimills came along. Our analysis suggests that most disruptive threats happen every few years in very dynamic markets, and every few decades in stable ones. Contrast the computer business, in which big changes such as the laptop or Dell's direct build-to-order process have come along every four or five years, with the retail sector, where the cycle is decades long. (See Figure 1)

How can you tell if a train is coming? Start by scanning the external factors that can let in big disrupters. The development of the interstate freeway system in the US literally paved the way for large suburban discount stores – and hurt city department stores. Analyse what your rivals are up to, and monitor the funding going to potentially competitive start-ups. The next step is to match the resulting shortlist against the following six common characteristics of disruptive innovation mapped by Harvard's Christensen.

Disruptive innovations:

- Reshape the prevailing business model to earn profits in a new way. Priceline's online airline-ticketing service is an example.
- Enable customers to do things that only specialists could do before. Charles Schwab made stock trading affordable and accessible for all.
- Find their first commercial footing in new, simple, undemanding applications, usually among those not identified previously as customers. Southwest Airlines soared by focusing solely on leisure travellers in short-hop runs.
- Tend to migrate upmarket. The Palm handheld quickly spawned sophisticated models with higher price tags.
- Don't disrupt customers – just competitors. Success doesn't mean

Figure 1: Frequency of disruptive innovation



convincing customers they need to get something done that they weren't already trying to get done – it means giving them ways to get those things done more simply and conveniently. Fast food is an example.

- Compete differently. Your competitive posture must change as the market changes and customers' expectations shift.

This last point bears close attention. Christensen describes the need to "align with the prevailing basis of competition." When a product isn't yet good enough, disrupters launch products with higher performance or more features. As the products' performance begins to equalise, disrupters start offering greater reliability, or quality of service. When there's parity across the marketplace again, convenience becomes the new differentiator. Price becomes the last competitive wave.

Timing is everything. Many companies have mistakenly tried to get a jump on disruption by offering, say, convenience when their customers still want more product features. They soon learn that customers won't alter their buying behaviour – cannot be disrupted – until they've been 'overserved' along the existing basis of competition. J&J is competing differently by combining pharmaceutical

disciplines with medical-device technology to make its coated stents.

If you see no history of disruption in your industry, no overserved sector, no evidence of competitors utilising those six characteristics, and no sign of funding that could point start-ups your way, it may be wise to minimize investments in disruptive innovation. But if you conclude the six characteristics are becoming common competitive dynamics, or they happen to be aligning right now, then building a disruptive-innovation engine should move to the top of the company's priorities.

2. Assemble the 'Innovation Engine'

The assembly instructions of an 'innovation engine' break into three parts:

Gather 'component' ideas

The most fundamental step is a process that captures and tests a broad range of disruptive innovation ideas. Companies that lose the most money on disruptive innovation generally do so, not by investing in too many innovations, but by seizing one grand idea, betting irrationally on its immediate success, and then over-engineering it to meet unrealistic expectations. Successful disruption engines are built from robust portfolios of

disruption devices. Some prove futile; others are unstoppable.

Companies should look in three directions for innovations: inside the organisation; among business partners, customers and suppliers; and toward competitors – particularly start-ups.

It's one thing to encourage a flow of constructive ideas, and another to educate the organisation to overcome resistance to disruptions when a new venture threatens incumbent interests. If your organisation's most senior managers aren't exposed to the concept of disruption and don't understand its long-term role in creating value for the whole organisation, they probably won't agree to do things that run counter to the dominant processes or values of the mainstream businesses.

One element of the innovation strategy of German car manufacturer BMW, for example, is the Palo Alto Technology Office (PATYO). There, a small group of engineers work among the brains behind advanced hardware and software developments, sharing knowledge and collaborating on new automobile components. Every year, ten selected BMW employees travel to Palo Alto to discover the next disruptive innovation in the automotive industry. Teams of three people then have 90 days to identify, explore, and develop new projects. The teams are cross-functional so that each project has the perspective of a marketer, an engineer, and a strategist. This team composition improves consensus as the idea makes its way from one stage in the innovation process to the next.

Send the right ideas to the right work areas

Truly disruptive ideas need safe havens, usually independent work areas, where they can develop without intervention from managers who fear their products will be 'cannibalised' by the new approach. The nursery approach is critical because very few organisations are set up to 'self-disrupt'. An innovation engine can't be assembled unless disrupters recognise that their nonconformist initiatives, by definition, will run headlong into three organisational roadblocks:

- Resource capabilities, including tangibles like equipment, cash, people, and technologies, and less tangible ones like information, brands, and product designs.
- Processes, the patterns of interaction, communication, decision-making, and co-ordination.

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- Values, the criteria by which companies set priorities.

Successfully disrupting those fundamental dimensions requires far more energy and time than the average implementer understands. In fact, the greatest barriers to disruptive innovations are frequently organisational. Had Apple Computer developed a separate organisation for truly disruptive ideas, perhaps it would not have attempted to force-fit the Newton handheld into its computer model – trying to make a handheld good enough to be used as a computer. Meanwhile, start-up Palm Computing, originally launched to build software for handheld computers, saw a golden opportunity for a simpler product. Unfettered by existing processes and values, the Palm team was able to launch an entirely new product category.

Plan to profit

Disruptive innovation need not cost a fortune; it should quickly self-fund. Once approved, a disruptive project's ability to produce quick wins – ideally, to generate profits from the outset – is the key to its long-term survival.

Planning for quick profits keeps disruption development as simple as possible – few bells, no whistles – and that increases the probability of success. And lower investment per project lets the company pursue more disruptive innovations without diluting earnings. Again, the probability of success rises.

3. Keep the engine running

You may have assembled a powerful innovation engine, but will it run reliably for a long time? The actions taken after one successful disruption are critical to the likelihood of another. We see five practices associated with profitable continuation of disruption:

Think small

Emphasising a decentralised approach that enables disruption and quick decision-making, J&J pitches potential recruits under the banner of 'small-company

environment, big-company impact'.

Think wide

Increasingly, businesses are searching outside their own four walls for the ideas they need. By systematically opening their innovation borders to vendors, customers and even competitors, firms are increasing the imports and exports of novel ideas.

Share the wealth and the wisdom

Just because disruptive innovations should be incubated in an independent environment doesn't mean they should stay there forever. As a disruptive innovation matures, there will be more opportunities to share activities with other parts of the organisation.

Attract mavericks

In their early days, disruptive innovations thrive with maverick leaders. At one electronic equipment maker we know, executives emphasise the importance of staffing their innovation efforts only with the kinds of managers labelled 'responsibly disobedient.'

Market your success

Generally, disruption champions are pretty good at sharing what they learn; they know that by publicly celebrating successes, they create a virtuous circle of widening support for the innovation engine.

Although most executives recognise that disruptive innovation has strategic value, few know how to make it an inseparable part of their business activities. We have found that by tuning the values of the organisation to embrace disruptive innovation, and building processes and allocating resources to support it over the long-term, businesses in many sectors can make disruptive innovation profitable – and repeatable.

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