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IMPROVING THE PRACTICE OF MANAGEMENT

It takes systems, not serendipity: A blueprint for building a disruptive-innovation engine

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It takes systems, not serendipity: A blueprint for building a disruptive-innovation engine

Management in established companies may lack the zeal and fervour of their counterparts in start-ups. But by embracing disruptive innovation, managers in incumbents can make even near-behemoths as nimble and fertile as any venture-capital backed start-up.

By Darrell K. Rigby and Alistair Corbett

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Most businesses agree that innovation is a key path to growth, but few know how to innovate successfully and repeatedly.

Companies that point proudly to well-funded research labs and streams of new products are usually pointing to sustaining innovations—the kind that satisfy existing customers by improving the performance of, say, an automobile engine or a software application. Truly disruptive innovations—the dramatically cheaper, simpler innovations that attract new users and create entirely new markets—are associated more with start-ups than with established businesses.

It need not be that way. Bain & Company argues that existing businesses can bring to life the next personal computer or Palm-like digital device, and they can profitably repeat such disruptive innovations.

In this article, we lay out a blueprint for building disruptive-innovation processes into your

organization. The blueprint consists of three parts: matching disruption strategies to disruption sensitivities; assembling the innovation engine; and keeping the engine running. We draw on work by Harvard Business School professor Clayton Christensen, author of *The Innovator's Dilemma: When New Technologies Cause Great Firms To Fail*. In this important book, Professor Christensen noted that time and again, industry incumbents have failed to see disruptions coming until it was too late. For example, the telegraph fundamentally changed the speed and scale of communications, eliminating other businesses, like the Pony Express. Metal welding eliminated the riveting trade. Overnight-package delivery bruised postal systems worldwide. However, it must be kept in mind that disruptive innovations have both enormous upside (if you catch them) and downside (if you don't, but someone else does).

Today, managers may well know that they need to innovate aggressively, yet they still hold up three good reasons for not doing so: 1) Turbulent economic conditions have shifted the focus to cost reduction; 2) the spectacular failures of potentially disruptive competitors—think Internet start-ups—have eased the sense of urgency; and 3) the challenges of implementing disruptive innovations have produced unacceptable returns. As one senior executive said recently, "I'm a firm believer in the disruption concepts, but I'm increasingly skeptical that they can be implemented in our company."

In other words, his company, like most, is probably brimming with bright ideas, but the resources, processes and values of the organization are geared to nourish sustained operations -- and to quell disruptions.

Our blueprint shows how man-

*Many companies have mistakenly tried to get a jump on **disruption** by offering, say, convenience, when their customers want more product features*

agers can start building an "innovation engine" - tuning the values of the organization to embrace disruptive innovation, and building processes and allocating resources to support it over the long term.

A 3-step blueprint for disruptive innovation

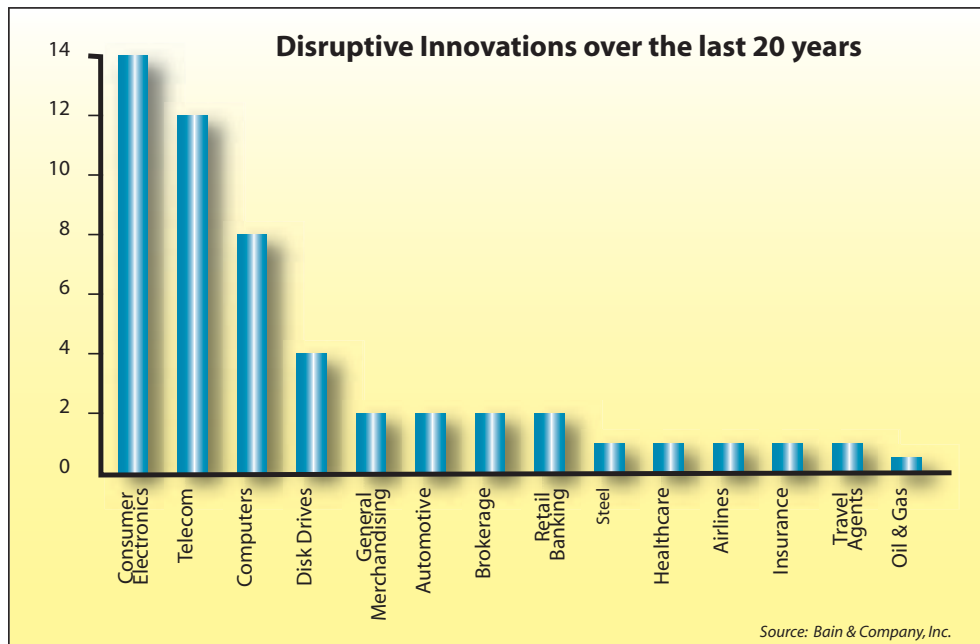
1. Match disruption strategies to disruption sensitivities

In some industries, businesses believe that they face so few disruptive threats that they don't need to worry. If your industry has not come out with successive generations of new products, you might assume that disruption will never happen. Steel companies might have believed this before mini-mills came along.

Some industries do face few, if any, disruptions. Others are so prone to disruption that building an innovation engine should be their highest strategic priority. So how do you know where you stand? Bain's analysis reveals that disruptive threats to most businesses don't usually come along every year. They happen once every few years in very dynamic markets, and once every few decades in stable ones. In the computer business, for example, big changes such as the laptop or Dell's direct build-to-order process have come along every four or five years. Contrast this with the retail sector, where the cycle is decades long.

But the disruption sensitivity of an industry can and does change. If a disruptive freight train is suddenly barreling your way, it's better to take action than to trust the odds of sleeping on the tracks.

How can you tell if a train is coming? Start with a thorough analysis of your industry's sensitivity to disruption. A first step is to scan the big external factors that can let in big disrupters. (The development of the interstate freeway system in the U.S., for example, literally paved the way for regional malls-and hurt city department stores.) Then, analyze 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 innovations identified by Harvard's Christensen.



Disruptive innovations:

- Reshape the prevailing business model to earn profits in a new way. Priceline's on-line airline-ticketing service is one example.

- Enable customers to do things that only specialists could do before. Example: Charles Schwab made stock trading affordable and accessible for all.

- Find their first commercial footing in new, simple, undemanding applications, among those not usually 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 convincing customers that 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. Christensen describes the need to "align with the prevailing basis of competition." When a product isn't yet good enough, for instance, disrupters launch products with higher performance or more features. As performance of the products begins to equalize, disrupters start offering greater reliability or quality of service. Then, when product parity reigns again, convenience becomes the new differentiator in the marketplace. The last competitive wave is price, but keep in mind that timing is everything: Many companies have mistakenly tried to get a jump on disruption by offering, say, convenience, when their customers want more product features. They soon learn that customers won't alter their buying behaviour - cannot be disrupted - until they have been "overserved" along the existing basis of competition.

If there is no history of disruption in your industry, no over-served sector, no evidence that competitors are utilizing those six characteristics, and no sign of funding that could point start-ups your way, it may be best to minimize investments in disruptive innovation. But if you conclude that the six disruption characteristics are becoming common competitive dynamics, or that they're not common but happen to be aligning, then building a disruptive-innovation engine should become a priority. That's what happens periodically at many companies with strong innovation records, and regularly at exemplary innovators such as Johnson & Johnson.

Your entire business network should be viewed as an innovation search party. Your employees have to know that the culture rewards great ideas

2. Assemble the innovation engine

Assembly occurs in three stages:

a) Gather "component" ideas

The keystone 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 by seizing one grand idea, betting irrationally on its colossal and immediate success, then over-engineering it to meet unrealistic expectations. As the saying goes, "Nothing is more dangerous than an idea when it is the only one you have." Successful disruption engines are built from robust portfolios of disruption devices. Some prove futile, but others are unstoppable.

Your entire business network should be viewed as an innovation search party. Your employees have to know that the culture rewards great ideas. Some of the best ideas come from the ranks, but they can easily die there. So you need to prove that nothing bad happens to those who float less-than-disruptive concepts.

Your innovation search parties should look in three directions: inside the organization (many of Sony's home-grown products-the transistor radio, for instance-created classic disruptions); among business partners, customers and suppliers (Intel got its start in microprocessors when it accepted an order from Busicom, a second-tier Japanese calculator company); and toward competitors-particularly start-ups.

Without guidelines, though, idea capture will be haphazard at best, and idea testing won't have a chance.

It's one thing to encourage a flow of constructive ideas; it's quite another thing to educate the organization to break down inbuilt resistance to disruptions when a new venture threatens its interests. And it's yet another to signal that innovation is becoming a strategic linchpin. If your organization's senior managers aren't exposed

to the concept of disruption and don't understand its long-term role in creating value for the whole organization, they probably won't agree to do things that run counter to the established processes or values of the mainstream businesses.

Education can begin informally, with the distribution of articles on innovation from key business publications, or with brown-bag lunches where invited speakers describe how their organizations innovated successfully. Later, it can begin to form a language of disruption, using distinct vocabulary and terms on key internal Web sites and in employee newsletters to help shape an innovation culture. At Intel, disruptive innovation has become a key topic on the corporate training agenda.

b) Send the right ideas to the right work areas

Now you need to sort your collection of ideas and assign them to organizational units for implementation. Low-priority ideas are scrapped. Sustaining innovations go to the operating units where they will align well with the prevailing values, and where their chances of success are much greater. (Be careful to view the innovation in context: The same innovation may be disruptive in one organization, but sustaining in another. The Internet was disruptive for Compaq Computer but not for Dell Computer, which saw it as a tool to complement its direct selling by phone and fax.)

The truly disruptive ideas, however, must always go to safe, independent work areas. There, they can develop without intervention by managers who fear that their products will be cannibalized by the new approach. The nursery approach is critical because very few organizations are set up to self-disrupt. An innovation engine can't be assembled unless disrupters recognize that their nonconformist initiatives, by definition, will run headlong into three organizational buzz saws: 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 coordination that employees use to transform resources into products and services of greater worth); and values (the criteria by which companies set priorities). Successfully disrupting those most fundamental dimensions requires far more energy and time than the average implementer understands.

In fact, the greatest barriers to disruptive innovations are frequently organizational ones. An example is Compaq's attempt to launch an on-line catalogue. Resistance from its established retail channel was so fierce that the company had to quash the effort. Harvard's Christensen observed that Compaq's processes and values weren't compatible with those required to successfully launch an Internet business at that point.

Had Apple Computer followed the guideline of creating a separate organization for truly disruptive ideas, perhaps it would not have been embarrassed by its misstep with the full-featured Newton handheld computer. Apple attempted to force-fit the Newton disruption 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, much more workable product. Unencumbered by existing processes and values, and with fresh and dedicated resources, the Palm team was able to birth an entirely new product category.

c) Plan to profit

Disruptive innovation should not cost a fortune, and it should self-fund quickly. Once approved, a disruptive project's ability to produce quick wins-ideally, to generate profits from the get-go-is key to its long-term survival. Early wins open the way for larger projects that target larger markets, and leave a trail of metrics that telegraph success.

Planning for quick profits creates three important advan-

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tages: It keeps disruption development as simple as possible-few bells, no whistles-which increases the probability of success. It enables a bulletproof business plan so that the venture is robust enough to weather everything from economic downturns to leadership transitions. And lower investment per project lets the company pursue more disruptive innovations without diluting earnings. Again, the probability of success rises significantly.

Yet many companies try to make the technology too elegant. There are many examples of over-investing in innovation: Failed on-line grocer Webvan is perhaps the most outrageous. But what is it that pushes innovation projects to excess? Our analysis is that project champions, presenting to senior management, feel forced to demonstrate that their maverick initiatives will get big enough fast enough to satisfy the company's growth needs.

The sequence of steps for building an innovation engine is not die-cast. As the allocation and mix of resources, values and processes vary from one organization to another, so will their innovation-engine blueprints. What is important is that there is a blueprint, and that it is designed around the organizational principles outlined.

3. Keep the engine running

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

a) Think small

Johnson & Johnson is one of the few organizations that has found ways to consistently innovate despite its complexity and scale. (J & J has sales of \$32.3 billion and approximately 106,100 employees across 197 operating companies.) Emphasizing the decentralized approach that enables

disruption as well as quick decision-making, J & J pitches potential recruits under the banner of "small-company environment, big-company impact." But what's more important is that the company has created a process-called FrameworkS-to allow it to assess disruption and act quickly.

Begun as an initiative of J & J's nine-member executive committee, FrameworkS (the 'S' emphasizing the multiple ways J & J managers must view the company's businesses) spins off teams of senior managers to scrutinize company-wide issues identified as critical to J & J's future; team members come from all over the company, and they are encouraged to challenge everything. The teams break into task forces that launch intensive research ranging from analyses of J & J's relevant operations, policies and plans, to meetings with third-party subject-matter experts.

The big point: The participating senior managers already have high-pressure "day jobs," but they commit wholeheartedly to their task-force roles, learning as they go. In effect, change is part of their long-term mandates, and the company thinks and acts in terms of a permanent portfolio of risk. No one project is a bet-the-company move. In 1999, Ralph Larsen, J & J's chief executive at the time, credited FrameworkS with promoting "a receptiveness to deal with change that did not exist 5 years ago."

b) Share the wealth and the wisdom

Just because disruptive innovations should be nurtured in an independent environment doesn't mean they should stay in the incubator forever. As a disruptive innovation matures, there will be more opportunities to share activities with other parts of the organization. In fact, the rewards should be shared to encourage co-operation on future disruptive initiatives. Managers should already be thinking three years ahead when asking questions such as: Which activities will be shared with other parts of the organization? Should we transfer managers to and from disruptive businesses

*At one electronic equipment maker we know, executives emphasize the importance of staffing their innovation efforts only with the kinds of managers labelled "**responsibly disobedient.**"*

to strengthen their general management skills and teamwork? How might we involve the heads of disruptive businesses in traditional planning processes to encourage more aggressive innovation?

Your organization should also start to tap into the innovation "infrastructure": the funding sources (such as venture capital), the top intellectual-property law firms, the underwriting community, and the government bodies that regulate intellectual-property rights.

c) Attract mavericks

In their early days, disruptive innovations thrive under the tutelage of maverick leaders. At one electronic equipment maker we know, executives emphasize the importance of staffing their innovation efforts only with the kinds of managers labelled "responsibly disobedient." They're the ones who are ready for, and energized by, a new mission; they balance ego with self-confidence; and they rapidly apply adaptive skills and "no-permission" actions to see the mission through. Your human-resources operation needs to begin to develop processes for locating and hiring such individuals, and for moving selected employees into and out of your disruptive projects.

d) Market your success

Get busy spreading success stories. The key messages need to reach multiple audiences-employees, potential recruits, clients, prospects, investors, alliance partners-via multiple channels. 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.

While many recognize the strategic value of disruptive innovation, few know how to embed it in their organizations. In part, that's because so few have clearly understood the fundamentals of innovation-from the factors that make markets prone to disruption to the cultural attributes that reinforce innovation activity.

With a structured approach-beginning with a candid assessment of your company's and industry's sensitivity to disruption, concentrating on the tactics that im-

prove the odds of building a disruptive innovation engine, and carried through to ensure the engine's durability-disruption can become a powerful strategic play for your business. ■