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# Meeting the Challenge of Disruptive Change

by Clayton M. Christensen and Michael Overdorf

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# Meeting the Challenge of Disruptive Change

## The Idea in Brief

Why do so few established companies innovate successfully? Of hundreds of department stores, for instance, only Dayton Hudson became a discount-retailing leader. And not one minicomputer company succeeded in the personal-computer business.

What's going on? After all, most established firms boast deep pockets and talented people. But when a new venture captures their imagination, they get their people working on it within organizational structures (such as functional teams) designed to surmount *old* challenges—not ones that the new venture is facing.

To avoid this mistake, ask:

- **"Does my organization have the right *resources* to support this innovation?"** Resources supporting business-as-usual—people, technologies, product designs, brands, customer and supplier relationships—rarely match those required for new ventures.
- **"Does my organization have the right *processes* to innovate?"** Processes supporting your established business—decision-making protocols, coordination patterns—may hamstring your new venture.
- **"Does my organization have the right *values* to innovate?"** Consider how you decide whether to commit to a new venture. For example, can you tolerate lower profit margins than your established enterprise demands?
- **"What team and structure will best support our innovation effort?"** Should you use a team dedicated to the project within your company? Create a separate spin-off organization?

By selecting the right team and organizational structure for your innovation—and infusing it with the right resources, processes, and values—you heighten your chances of innovating successfully.

## The Idea in Practice

**SELECTING THE RIGHT STRUCTURE FOR YOUR INNOVATION**

| If your innovation . . . | Select this type of team . . . | To operate . . . | Because . . . |
|---|---|---|---|
| Fits *well* with your existing values *and* processes | **Functional teams** who work sequentially on issues, or **lightweight teams**—ad hoc cross-functional teams who work simultaneously on multiple issues | Within your existing organization | Owing to the good fit with existing processes and values, no new capabilities or organizational structures are called for. |
| Fits *well* with existing values but *poorly* with existing processes | **Heavyweight team** dedicated exclusively to the innovation project, with complete responsibility for its success | Within your existing organization | The poor fit with existing processes requires new types of coordination among groups and individuals. |
| Fits *poorly* with existing values but *well* with existing processes | **Heavyweight team** dedicated exclusively to the innovation project, with complete responsibility for its success | Within your existing organization for development, followed by a spin-off for commercialization | In-house development capitalizes on existing processes. A spin-off for the commercialization phase facilitates new values—such as a different cost structure with lower profit margins. |
| Fits *poorly* with your existing processes *and* values | **Heavyweight team** dedicated exclusively to the innovation project, with complete responsibility for its success | In a separate spin-off or acquired organization | A spin-off enables the project to be governed by different values *and* ensures that new processes emerge. |

*It's no wonder that innovation is so difficult for established firms. They employ highly capable people—and then set them to work within processes and business models that doom them to failure. But there are ways out of this dilemma.*

# Meeting the Challenge of Disruptive Change

by Clayton M. Christensen and Michael Overdorf



These are scary times for managers in big companies. Even before the Internet and globalization, their track record for dealing with major, disruptive change was not good. Out of hundreds of department stores, for example, only one—Dayton Hudson—became a leader in discount retailing. Not one of the minicomputer companies succeeded in the personal computer business. Medical and business schools are struggling—and failing—to change their curricula fast enough to train the types of doctors and managers their markets need. The list could go on.

It's not that managers in big companies can't see disruptive changes coming. Usually they can. Nor do they lack resources to confront them. Most big companies have talented managers and specialists, strong product portfolios, first-rate technological know-how, and deep pockets. What managers lack is a habit of thinking about their organization's capabilities as carefully as they think about individual people's capabilities.

One of the hallmarks of a great manager is the ability to identify the right person for the right job and to train employees to succeed at the jobs they're given. But unfortunately, most managers assume that if each person working on a project is well matched to the job, then the organization in which they work will be, too. Often that is not the case. One could put two sets of identically capable people to work in different organizations, and what they accomplished would be significantly different. That's because organizations themselves—independent of the people and other resources in them—have capabilities. To succeed consistently, good managers need to be skilled not just in assessing people but also in assessing the abilities and disabilities of their organization as a whole.

This article offers managers a framework to help them understand what their organizations are capable of accomplishing. It will show them how their company's disabilities become more sharply defined even as its core capabilities grow. It will give them a way to recognize different kinds of change and make appropri-

ate organizational responses to the opportunities that arise from each. And it will offer some bottom-line advice that runs counter to much that's assumed in our can-do business culture: if an organization faces major change—a disruptive innovation, perhaps—the worst possible approach may be to make drastic adjustments to the existing organization. In trying to transform an enterprise, managers can destroy the very capabilities that sustain it.

Before rushing into the breach, managers must understand precisely what types of change the existing organization is capable and incapable of handling. To help them do that, we'll first take a systematic look at how to recognize a company's core capabilities on an organizational level and then examine how those capabilities migrate as companies grow and mature.

## Where Capabilities Reside

Our research suggests that three factors affect what an organization can and cannot do: its resources, its processes, and its values. When thinking about what sorts of innovations their organization will be able to embrace, managers need to assess how each of these factors might affect their organization's capacity to change.

**Resources.** When they ask the question, "What can this company do?" the place most managers look for the answer is in its resources—both the tangible ones like people, equipment, technologies, and cash, and the less tangible ones like product designs, information, brands, and relationships with suppliers, distributors, and customers. Without doubt, access to abundant, high-quality resources increases an organization's chances of coping with change. But resource analysis doesn't come close to telling the whole story.

**Processes.** The second factor that affects what a company can and cannot do is its processes. By processes, we mean the patterns of interaction, coordination, communication, and decision making employees use to transform resources into products and services of greater worth. Such examples as the processes that govern product development, manufacturing, and budgeting come immediately to mind. Some processes are formal, in the sense that they are explicitly defined and documented. Others are informal: they are routines or ways of working that evolve over time. The former tend to be more visible, the latter less visible.

One of the dilemmas of management is that processes, by their very nature, are set up so that employees perform tasks in a consistent way, time after time. They are *meant* not to change or, if they must change, to change through tightly controlled procedures. When people use a process to do the task it was designed for, it is likely to perform efficiently. But when the same process is used to tackle a very different task, it is likely to perform sluggishly. Companies focused on developing and winning FDA approval for new drug compounds, for example, often prove inept at developing and winning approval for medical devices because the second task entails very different ways of working. In fact, a process that creates the capability to execute one task concurrently defines disabilities in executing other tasks.[1]

The most important capabilities and concurrent disabilities aren't necessarily embodied in the most visible processes, like logistics, development, manufacturing, or customer service. In fact, they are more likely to be in the less visible, background processes that support decisions about where to invest resources—those that define how market research is habitually done, how such analysis is translated into financial projections, how plans and budgets are negotiated internally, and so on. It is in those processes that many organizations' most serious disabilities in coping with change reside.

**Values.** The third factor that affects what an organization can and cannot do is its values. Sometimes the phrase "corporate values" carries an ethical connotation: one thinks of the principles that ensure patient well-being for Johnson & Johnson or that guide decisions about employee safety at Alcoa. But within our framework, "values" has a broader meaning. We define an organization's values as the standards by which employees set priorities that enable them to judge whether an order is attractive or unattractive, whether a customer is more important or less important, whether an idea for a new product is attractive or marginal, and so on. Prioritization decisions are made by employees at every level. Among salespeople, they consist of on-the-spot, day-to-day decisions about which products to push with customers and which to de-emphasize. At the executive tiers, they often take the form

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of decisions to invest, or not, in new products, services, and processes.

The larger and more complex a company becomes, the more important it is for senior managers to train employees throughout the organization to make independent decisions about priorities that are consistent with the strategic direction and the business model of the company. A key metric of good management, in fact, is whether such clear, consistent values have permeated the organization.

But consistent, broadly understood values also define what an organization cannot do. A company's values reflect its cost structure or its business model because those define the rules its employees must follow for the company to prosper. If, for example, a company's overhead costs require it to achieve gross profit margins of 40%, then a value or decision rule will have evolved that encourages middle managers to kill ideas that promise gross margins below 40%. Such an organization would be incapable of commercializing projects targeting low-margin markets—such as those in e-commerce—even though another organization's values, driven by a very different cost structure, might facilitate the success of the same project.

Different companies, of course, embody different values. But we want to focus on two sets of values in particular that tend to evolve in most companies in very predictable ways. The inexorable evolution of these two values is what makes companies progressively less capable of addressing disruptive change successfully.

As in the previous example, the first value dictates the way the company judges acceptable gross margins. As companies add features and functions to their products and services, trying to capture more attractive customers in premium tiers of their markets, they often add overhead cost. As a result, gross margins that were once attractive become unattractive. For instance, Toyota entered the North American market with the Corona model, which targeted the lower end of the market. As that segment became crowded with look-alike models from Honda, Mazda, and Nissan, competition drove down profit margins. To improve its margins, Toyota then developed more sophisticated cars targeted at higher tiers. The process of developing cars like the Camry and the Lexus added costs to Toyota's operation. It subsequently decided to exit the lower end of the market; the margins had become unacceptable because the company's cost structure, and consequently its values, had changed.

In a departure from that pattern, Toyota recently introduced the Echo model, hoping to rejoin the entry-level tier with a $10,000 car. It is one thing for Toyota's senior management to decide to launch this new model. It's another for the many people in the Toyota system—including its dealers—to agree that selling more cars at lower margins is a better way to boost profits and equity values than selling more Camrys, Avalons, and Lexuses. Only time will tell whether Toyota can manage this downmarket move. To be successful with the Echo, Toyota's management will have to swim against a very strong current—the current of its own corporate values.

The second value relates to how big a business opportunity has to be before it can be interesting. Because a company's stock price represents the discounted present value of its projected earnings stream, most managers feel compelled not just to maintain growth but to maintain a constant rate of growth. For a $40 million company to grow 25%, for instance, it needs to find $10 million in new business the next year. But a $40 billion company needs to find $10 billion in new business the next year to grow at that same rate. It follows that an opportunity that excites a small company isn't big enough to be interesting to a large company. One of the bittersweet results of success, in fact, is that as companies become large, they lose the ability to enter small, emerging markets. This disability is not caused by a change in the resources within the companies—their resources typically are vast. Rather, it's caused by an evolution in values.

The problem is magnified when companies suddenly become much bigger through mergers or acquisitions. Executives and Wall Street financiers who engineer megamergers between already-huge pharmaceutical companies, for example, need to take this effect into account. Although their merged research organizations might have more resources to throw at new product development, their commercial organizations will probably have lost their appetites for all but the biggest blockbuster drugs. This constitutes a very real disability in managing innovation. The same problem crops up in high-tech industries as well. In many ways, Hewlett-Packard's recent decision

to split itself into two companies is rooted in its recognition of this problem.

### The Migration of Capabilities

In the start-up stages of an organization, much of what gets done is attributable to resources—people, in particular. The addition or departure of a few key people can profoundly influence its success. Over time, however, the locus of the organization's capabilities shifts toward its processes and values. As people address recurrent tasks, processes become defined. And as the business model takes shape and it becomes clear which types of business need to be accorded highest priority, values coalesce. In fact, one reason that many soaring young companies flame out after an IPO based on a single hot product is that their initial success is grounded in resources—often the founding engineers—and they fail to develop processes that can create a sequence of hot products.

Avid Technology, a producer of digital-editing systems for television, is an apt case in point. Avid's well-received technology removed tedium from the video-editing process. On the back of its star product, Avid's stock rose from $16 a share at its 1993 IPO to $49 in mid-1995. However, the strains of being a one-trick pony soon emerged as Avid faced a saturated market, rising inventories and receivables, increased competition, and shareholder lawsuits. Customers loved the product, but Avid's lack of effective processes for consistently developing new products and for controlling quality, delivery, and service ultimately tripped the company and sent its stock back down.

By contrast, at highly successful firms such as McKinsey & Company, the processes and values have become so powerful that it almost doesn't matter which people get assigned to which project teams. Hundreds of MBAs join the firm every year, and almost as many leave. But the company is able to crank out high-quality work year after year because its core capabilities are rooted in its processes and values rather than in its resources.

When a company's processes and values are being formed in its early and middle years, the founder typically has a profound impact. The founder usually has strong opinions about how employees should do their work and what the

## Digital's Dilemma

A lot of business thinkers have analyzed Digital Equipment Corporation's abrupt fall from grace. Most have concluded that Digital simply read the market very badly. But if we look at the company's fate through the lens of our framework, a different picture emerges.

Digital was a spectacularly successful maker of minicomputers from the 1960s through the 1980s. One might have been tempted to assert, when personal computers first appeared in the market around 1980, that Digital's core capability was in building computers. But if that were the case, why did the company stumble?

Clearly, Digital had the resources to succeed in personal computers. Its engineers routinely designed computers that were far more sophisticated than PCs. The company had plenty of cash, a great brand, good technology, and so on. But it did not have the processes to succeed in the personal computer business. Minicomputer companies designed most of the key components of their computers internally and then integrated those components into proprietary configurations. Designing a new product platform took two to three years. Digital manufactured most of its own components and assembled them in a batch mode. It sold directly to corporate engineering organizations. Those processes worked extremely well in the minicomputer business.

PC makers, by contrast, outsourced most components from the best suppliers around the globe. New computer designs, made up of modular components, had to be completed in six to 12 months. The computers were manufactured in high-volume assembly lines and sold through retailers to consumers and businesses. None of these processes existed within Digital. In other words, although the people working at the company had the ability to design, build, and sell personal computers profitably, they were working in an organization that was incapable of doing so because its processes had been designed and had evolved to do other tasks well.

Similarly, because of its overhead costs, Digital had to adopt a set of values that dictated, "If it generates 50% gross margins or more, it's good business. If it generates less than 40% margins, it's not worth doing." Management had to ensure that all employees gave priority to projects according to these criteria or the company couldn't make money. Because PCs generated lower margins, they did not fit with Digital's values. The company's criteria for setting priorities always placed higher-performance minicomputers ahead of personal computers in the resource-allocation process.

Digital could have created a different organization that would have honed the different processes and values required to succeed in PCs—as IBM did. But Digital's mainstream organization simply was incapable of succeeding at the job.

organization's priorities need to be. If the founder's judgments are flawed, of course, the company will likely fail. But if they're sound, employees will experience for themselves the validity of the founder's problem-solving and decision-making methods. Thus processes become defined. Likewise, if the company becomes financially successful by allocating resources according to criteria that reflect the founder's priorities, the company's values coalesce around those criteria.

As successful companies mature, employees gradually come to assume that the processes and priorities they've used so successfully so often are the right way to do their work. Once that happens and employees begin to follow processes and decide priorities by assumption rather than by conscious choice, those processes and values come to constitute the organization's culture.[2] As companies grow from a few employees to hundreds and thousands of them, the challenge of getting all employees to agree on what needs to be done and how can be daunting for even the best managers. Culture is a powerful management tool in those situations. It enables employees to act autonomously but causes them to act consistently.

Hence, the factors that define an organization's capabilities and disabilities evolve over time—they start in resources; then move to visible, articulated processes and values; and migrate finally to culture. As long as the organization continues to face the same sorts of problems that its processes and values were designed to address, managing the organization can be straightforward. But because those factors also define what an organization cannot do, they constitute disabilities when the problems facing the company change fundamentally. When the organization's capabilities reside primarily in its people, changing capabilities to address the new problems is relatively simple. But when the capabilities have come to reside in processes and values, and especially when they have become embedded in culture, change can be extraordinarily difficult. (See the sidebar "Digital's Dilemma.")

## Sustaining Versus Disruptive Innovation

Successful companies, no matter what the source of their capabilities, are pretty good at responding to evolutionary changes in their markets—what in *The Innovator's Dilemma* (Harvard Business School, 1997), Clayton Christensen referred to as *sustaining innovation*. Where they run into trouble is in handling or initiating revolutionary changes in their markets, or dealing with *disruptive innovation*.

Sustaining technologies are innovations that make a product or service perform better in ways that customers in the mainstream market already value. Compaq's early adoption of Intel's 32-bit 386 microprocessor instead of the 16-bit 286 chip was a sustaining innovation. So was Merrill Lynch's introduction of its Cash Management Account, which allowed customers to write checks against their equity accounts. Those were breakthrough innovations that sustained the best customers of these companies by providing something better than had previously been available.

Disruptive innovations create an entirely new market through the introduction of a new kind of product or service, one that's actually worse, initially, as judged by the performance metrics that mainstream customers value. Charles Schwab's initial entry as a bare-bones discount broker was a disruptive innovation relative to the offerings of full-service brokers like Merrill Lynch. Merrill Lynch's best customers wanted more than Schwab-like services. Early personal computers were a disruptive innovation relative to mainframes and minicomputers. PCs were not powerful enough to run the computing applications that existed at the time they were introduced. These innovations were disruptive in that they didn't address the next-generation needs of leading customers in existing markets. They had other attributes, of course, that enabled new market applications to emerge—and the disruptive innovations improved so rapidly that they ultimately could address the needs of customers in the mainstream of the market as well.

Sustaining innovations are nearly always developed and introduced by established industry leaders. But those same companies never introduce—or cope well with—disruptive innovations. Why? Our resources-processes-values framework holds the answer. Industry leaders are organized to develop and introduce sustaining technologies. Month after month, year after year, they launch new and improved products to gain an edge over the competition. They do so by developing processes for evaluating the technological potential of sustaining innovations and for assessing their customers'

needs for alternatives. Investment in sustaining technology also fits in with the values of leading companies in that they promise higher margins from better products sold to leading-edge customers.

Disruptive innovations occur so intermittently that no company has a routine process for handling them. Furthermore, because disruptive products nearly always promise lower profit margins per unit sold and are not attractive to the company's best customers, they're inconsistent with the established company's values. Merrill Lynch had the resources—the people, money, and technology—required to succeed at the sustaining innovations (Cash Management Account) and the disruptive innovations (bare-bones discount brokering) that it has confronted in recent history. But its processes and values supported only the sustaining innovation: they became disabilities when the company needed to understand and confront the discount and on-line brokerage businesses.

The reason, therefore, that large companies often surrender emerging growth markets is that smaller, disruptive companies are actually more capable of pursuing them. Start-ups lack resources, but that doesn't matter. Their values can embrace small markets, and their cost structures can accommodate low margins. Their market research and resource allocation processes allow managers to proceed intuitively; every decision need not be backed by careful research and analysis. All these advantages add up to the ability to embrace and even initiate disruptive change. But how can a large company develop those capabilities?

## Creating Capabilities to Cope with Change

Despite beliefs spawned by popular change-management and reengineering programs, processes are not nearly as flexible or adaptable as resources are—and values are even less so. So whether addressing sustaining or disruptive innovations, when an organization needs new processes and values—because it needs new capabilities—managers must create a new organizational space where those capabilities can be developed. There are three possible ways to do that. Managers can

• create new organizational structures within corporate boundaries in which new processes can be developed,

• spin out an independent organization from the existing organization and develop within it the new processes and values required to solve the new problem,

• acquire a different organization whose processes and values closely match the requirements of the new task.

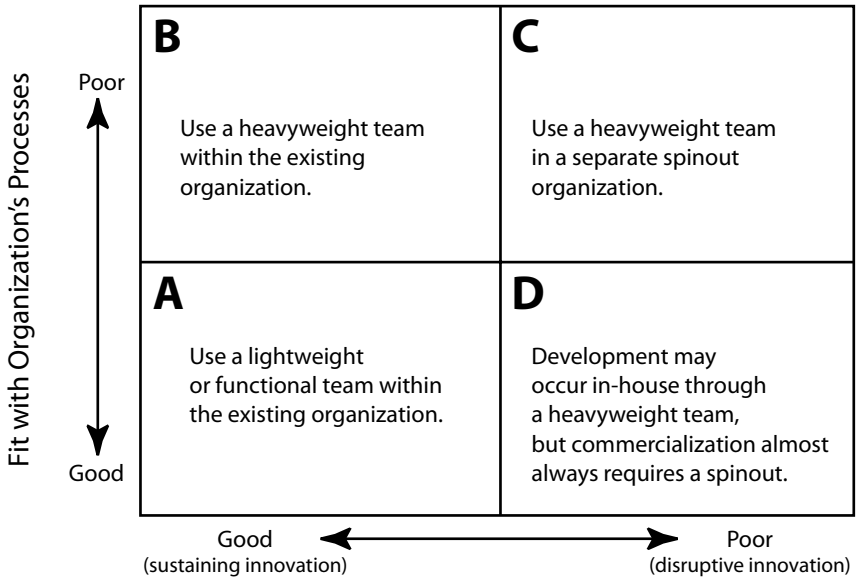
**Creating New Capabilities Internally.** When a company's capabilities reside in its processes, and when new challenges require new processes—that is, when they require different people or groups in a company to interact differently and at a different pace than they habitually have done—managers need to pull the relevant people out of the existing organization and draw a new boundary around a new group. Often, organizational boundaries were first drawn to facilitate the operation of existing processes, and they impede the creation of new processes. New team boundaries facilitate new patterns of working together that ultimately can coalesce as new processes. In *Revolutionizing Product Development* (The Free Press, 1992), Steven Wheelwright and Kim Clark referred to these structures as "heavyweight teams."

These teams are entirely dedicated to the new challenge, team members are physically located together, and each member is charged with assuming personal responsibility for the success of the entire project. At Chrysler, for example, the boundaries of the groups within its product development organization historically had been defined by components—power train, electrical systems, and so on. But to accelerate auto development, Chrysler needed to focus not on components but on automobile platforms—the minivan, small car, Jeep, and truck, for example—so it created heavyweight teams. Although these organizational units aren't as good at focusing on component design, they facilitated the definition of new processes that were much faster and more efficient in integrating various subsystems into new car designs. Companies as diverse as Medtronic for its cardiac pacemakers, IBM for its disk drives, and Eli Lilly for its new blockbuster drug Zyprexa have used heavyweight teams as vehicles for creating new processes so they could develop better products faster.

**Creating Capabilities Through a Spinout Organization.** When the mainstream organization's values would render it incapable of

# Fitting the Tool to the Task

Suppose that an organization needs to react to or initiate an innovation. The matrix illustrated below can help managers understand what kind of team should work on the project and what organizational structure that team needs to work within. The vertical axis asks the manager to measure the extent to which the organization's existing processes are suited to getting the new job done effectively. The horizontal axis asks managers to assess whether the organization's values will permit the company to allocate the resources the new initiative needs.




In region A, the project is a good fit with the company's processes and values, so no new capabilities are called for. A functional or a lightweight team can tackle the project within the existing organizational structure. A functional team works on function- specific issues, then passes the project on to the next function. A lightweight team is cross-functional, but team members stay under the control of their respective functional managers.

In region B, the project is a good fit with the company's values but not with its processes. It presents the organization with new types of problems and therefore requires new types of interactions and coordination among groups and individuals. The team, like the team in region A, is working on a sustaining rather than a disruptive innovation. In this case, a heavyweight team is a good bet, but the project can be executed within the mainstream company. A heavyweight team—whose members work solely on the project and are expected to behave like general managers, shouldering responsibility for the project's success—is designed so that new processes and new ways of working together can emerge.

In region C, the manager faces a disruptive change that doesn't fit the organization's existing processes or values. To ensure success, the manager should create a spinout organization and commission a heavyweight development team to tackle the challenge. The spinout will allow the project to be governed by different values—a different cost structure, for example, with lower profit margins. The heavyweight team (as in region B) will ensure that new processes can emerge.

Similarly, in region D, when a manager faces a disruptive change that fits the organization's current processes but doesn't fit its values, the key to success almost always lies in commissioning a heavyweight development team to work in a spinout. Development may occasionally happen successfully in-house, but successful commercialization will require a spinout.

Unfortunately, most companies employ a one-size-fits-all organizing strategy, using lightweight or functional teams for programs of every size and character. But such teams are tools for exploiting established capabilities. And among those few companies that have accepted the heavyweight gospel, many have attempted to organize *all* of their development teams in a heavyweight fashion. Ideally, each company should tailor the team structure and organizational location to the process and values required by each project.

allocating resources to an innovation project, the company should spin it out as a new venture. Large organizations cannot be expected to allocate the critical financial and human resources needed to build a strong position in small, emerging markets. And it is very difficult for a company whose cost structure is tailored to compete in high-end markets to be profitable in low-end markets as well. Spinouts are very much in vogue among managers in old-line companies struggling with the question of how to address the Internet. But that's not always appropriate. When a disruptive innovation requires a different cost structure in order to be profitable and competitive, or when the current size of the opportunity is insignificant relative to the growth needs of the mainstream organization, then—and only then—is a spinout organization required.

Hewlett-Packard's laser-printer division in Boise, Idaho, was hugely successful, enjoying high margins and a reputation for superior product quality. Unfortunately, its ink-jet project, which represented a disruptive innovation, languished inside the mainstream HP printer business. Although the processes for developing the two types of printers were basically the same, there was a difference in values. To thrive in the ink-jet market, HP needed to be comfortable with lower gross margins and a smaller market than its laser printers commanded, and it needed to be willing to embrace relatively lower performance standards. It was not until HP's managers decided to transfer the unit to a separate division in Vancouver, British Columbia, with the goal of competing head-to-head with its own laser business, that the ink-jet business finally became successful.

How separate does such an effort need to be? A new physical location isn't always necessary. The primary requirement is that the project not be forced to compete for resources with projects in the mainstream organization. As we have seen, projects that are inconsistent with a company's mainstream values will naturally be accorded lowest priority. Whether the independent organization is physically separate is less important than its independence from the normal decision-making criteria in the resource allocation process. The sidebar "Fitting the Tool to the Task" goes into more detail about what kind of innovation challenge is best met by which organizational structure.

Managers think that developing a new operation necessarily means abandoning the old one, and they're loathe to do that since it works perfectly well for what it was designed to do. But when disruptive change appears on the horizon, managers need to assemble the capabilities to confront that change before it affects the mainstream business. They actually need to run two businesses in tandem—one whose processes are tuned to the existing business model and another that is geared toward the new model. Merrill Lynch, for example, has accomplished an impressive global expansion of its institutional financial services through careful execution of its existing planning, acquisition, and partnership processes. Now, however, faced with the on-line world, the company is required to plan, acquire, and form partnerships more rapidly. Does that mean Merrill Lynch should change the processes that have worked so well in its traditional investment-banking business? Doing so would be disastrous, if we consider the question through the lens of our framework. Instead, Merrill should retain the old processes when working with the existing business (there are probably a few billion dollars still to be made under the old business model!) and create additional processes to deal with the new class of problems.

One word of warning: in our studies of this challenge, we have never seen a company succeed in addressing a change that disrupts its mainstream values without the personal, attentive oversight of the CEO—precisely because of the power of values in shaping the normal resource allocation process. Only the CEO can ensure that the new organization gets the required resources and is free to create processes and values that are appropriate to the new challenge. CEOs who view spinouts as a tool to get disruptive threats off their personal agendas are almost certain to meet with failure. We have seen no exceptions to this rule.

**Creating Capabilities Through Acquisitions.** Just as innovating managers need to make separate assessments of the capabilities and disabilities that reside in their company's resources, processes, and values, so must they do the same with acquisitions when seeking to buy capabilities. Companies that successfully gain new capabilities through acquisitions are those that know where those capabilities reside in the acquisition and assimilate them ac-

cordingly. Acquiring managers begin by asking, "What created the value that I just paid so dearly for? Did I justify the price because of the acquisition's resources? Or was a substantial portion of its worth created by processes and values?"

If the capabilities being purchased are embedded in an acquired company's processes and values, then the last thing the acquiring manager should do is integrate the acquisition into the parent organization. Integration will vaporize the processes and values of the acquired firm. Once the acquisition's managers are forced to adopt the buyer's way of doing business, its capabilities will disappear. A better strategy is to let the business stand alone and to infuse the parent's resources into the acquired company's processes and values. This approach truly constitutes the acquisition of new capabilities.

If, however, the acquired company's resources were the reason for its success and the primary rationale for the acquisition, then integrating it into the parent can make a lot of sense. Essentially, that means plugging the acquired people, products, technology, and customers into the parent's processes as a way of leveraging the parent's existing capabilities.

The perils of the ongoing DaimlerChrysler merger can be better understood in this light. Chrysler had few resources that could be considered unique. Its recent success in the market was rooted in its processes—particularly in its processes for designing products and integrating the efforts of its subsystem suppliers. What is the best way for Daimler to leverage Chrysler's capabilities? Wall Street is pressuring management to consolidate the two organizations to cut costs. But if the two companies are integrated, the very processes that made Chrysler such an attractive acquisition will likely be compromised.

The situation is reminiscent of IBM's 1984 acquisition of the telecommunications company Rolm. There wasn't anything in Rolm's pool of resources that IBM didn't already have. Rather, it was Rolm's processes for developing and finding new markets for PBX products that mattered. Initially, IBM recognized the value in preserving the informal and unconventional culture of the Rolm organization, which stood in stark contrast to IBM's methodical style. However, in 1987 IBM terminated Rolm's subsidiary status and decided to fully integrate the company into its own corporate structure. IBM's managers soon learned the folly of that decision. When they tried to push Rolm's resources—its products and its customers—through the processes that had been honed in the large-computer business, the Rolm business stumbled badly. And it was impossible for a computer company whose values had been whetted on profit margins of 18% to get excited about products with much lower profit margins. IBM's integration of Rolm destroyed the very source of the deal's original worth. DaimlerChrysler, bowing to the investment community's drumbeat for efficiency savings, now stands on the edge of the same precipice. Often, it seems, financial analysts have a better intuition about the value of resources than they do about the value of processes.

By contrast, Cisco Systems' acquisitions process has worked well because, we would argue, it has kept resources, processes, and values in the right perspective. Between 1993 and 1997, it primarily acquired small companies that were less than two years old, early-stage organizations whose market value was built primarily upon their resources, particularly their engineers and products. Cisco plugged those resources into its own effective development, logistics, manufacturing, and marketing processes and threw away whatever nascent processes and values came with the acquisitions because those weren't what it had paid for. On a couple of occasions when the company acquired a larger, more mature organization—notably its 1996 acquisition of StrataCom—Cisco did not integrate. Rather, it let StrataCom stand alone and infused Cisco's substantial resources into StrataCom's organization to help it grow more rapidly.[3]

Managers whose organizations are confronting change must first determine whether they have the resources required to succeed. They then need to ask a separate question: Does the organization have the processes and values it needs to succeed in this new situation? Asking this second question is not as instinctive for most managers because the processes by which work is done and the values by which employees make their decisions have served them well in the past. What we hope this framework introduces into managers' thinking is the idea that the very capabilities that make their organizations effective also define their disabilities. In that regard, a little

*Once an acquisition's managers are forced to adopt the buyer's way of doing business, its capabilities will disappear.*

*Often, it seems, financial analysts have a better intuition about the value of resources than they do about the value of processes.*

time spent soul-searching for honest answers to the following questions will pay off handsomely: Are the processes by which work habitually gets done in the organization appropriate for this new problem? And will the values of the organization cause this initiative to get high priority or to languish?

If the answers to those questions are no, it's okay. Understanding a problem is the most crucial step in solving it. Wishful thinking about these issues can set teams that need to innovate on a course fraught with roadblocks, second-guessing, and frustration. The reason that innovation often seems to be so difficult for established companies is that they employ highly capable people and then set them to work within organizational structures whose processes and values weren't designed for the task at hand. Ensuring that capable people are ensconced in capable organizations is a major responsibility of management in a transformational age such as ours.

1. See Dorothy Leonard-Barton, "Core Capabilities and Core Rigidities: A Paradox in Managing New Product Development," *Strategic Management Journal* (summer, 1992).
2. Our description of the development of an organization's culture draws heavily from Edgar Schein's research, as first laid out in his book *Organizational Culture and Leadership* (Jossey-Bass Publishers, 1985).
3. See Charles A. Holloway, Stephen C. Wheelwright, and Nicole Tempest, "Cisco Systems, Inc.: Post-Acquisition Manufacturing Integration," a case published jointly by the Stanford and Harvard business schools, 1998.

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## Further Reading

ARTICLES

**Tough-Minded Ways to Get Innovative**
by Andrall E. Pearson
*Harvard Business Review*
May–June 1988
Product no. 1636

What distinguishes outstanding competitors from the rest? In a complementary piece to the discussion of disruptive change, Pearson offers some enduring principles to help spark innovation. Among them: innovation begins at the top; and new ideas need a champion, a sponsor, a mix of creative types and operators, and a separate system to propel them to top management early and fast. Pearson also addresses how to think about corporate strategy and structure, where to look for good ideas, and what to do when you find them.

**The Discipline of Innovation**
by Peter F. Drucker
*Harvard Business Review*
November–December 1998
Product no. 3480

Innovation is the responsibility of every executive, and it begins with a conscious search for opportunities. Drucker argues that successful entrepreneurs share not so much a common personality as a commitment to the systematic practice of innovation. Offering a wealth of interesting examples, he maintains that the systematic search for innovation opportunities should focus on seven areas: unexpected occurrences, incongruities, process needs, industry and market changes, demographic changes, changes in perception, and new knowledge.

BOOK

**The Innovator's Solution: Creating and Sustaining Successful Growth**
by Clayton M. Christensen and Michael E. Raynor
Harvard Business School Press
2003
Product no. 8520

This book extends the message of the article with a more detailed road map for gaining a competitive edge through disruptive change. The authors' research demonstrates that innovation is not as unpredictable as most managers have come to believe. Although the outcomes of past innovations seem random, the process by which innovations are packaged and shaped within companies is very predictable. By understanding and managing the forces that influence this process, companies can shape high-octane business plans that create truly disruptive growth. Drawing on years of in-depth research and using new theories tested in hundreds of companies across many industries, the authors identify the processes that create successful innovations and show managers how to tailor their strategies to the changing circumstances of a dynamic world..

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