

# Managing Creativity and Innovation



# **Enhancing Creativity**

*Enriching the Organization and Workplace*

## **Key Topics Covered in This Chapter**

*Six ways to organizational enrichment*

*How to enrich the physical workplace*

IRING CREATIVE PEOPLE and grouping them into well-crafted teams, as described in chapter 6, is an essential first step toward producing greater creativity and useful innovation. The second step is more difficult and requires support at the highest levels. It involves making the organization and the physical workplace more supportive of creativity and innovation.

## **Organizational Enrichment**

Even if you have put together a really hot team of creative people, that team will produce disappointing results if it's condemned to operate within an organization that's unfriendly to new ideas. This was precisely what people in Xerox Corporation's Palo Alto Research Center (PARC) experienced during the late 1970s and early 1980s. PARC was (and remains) a cornucopia of innovative thinking. Its brainy scientists and engineers had conjured up many of the technologies that would eventually power the emerging era of desktop computing: ethernet connectivity, the mouse, and a user-friendly operating system. Xerox management, however, was not receptive to those innovations, which were not going to produce financial returns in the time frame required by the company. Many of PARC's innovations found their way into personal computers developed by Apple.

Hewlett-Packard innovators encountered a different but equally frustrating experience around 1990. The open, decentralized organization created by founders William Hewlett and David Packard had

been highly encouraging to innovators and had put the company at the forefront of many emerging product categories. But the retirement of the founders, new management, and enormous business growth resulted in a more centralized and bureaucratic organization. People with innovative ideas now found that they had to gain approvals from many layers of committees before they could move forward. The result was a marked slowdown in new product introductions and plummeting profits. Thankfully, the company's aging founders intervened, broke up the bureaucratic tangle, and returned HP to its characteristic idea-friendly ways. A huge leap in new product introductions followed—as did profits.

The Xerox and Hewlett-Packard examples underscore the impact of organizational practices on creativity and the innovations it produces. Table 7-1 lists the characteristics that support and encourage creativity and innovation. The converse of these characteristics actually discourages both. Consider these characteristics and how your company or your operating unit stands relative to them. Is it strong? Is it weak? If it's weak, what can be done to change the situation? Let's consider each characteristic in detail.

TABLE 7-1

### Checklist of Organizational Characteristics That Support Creativity and Innovation

Characteristic	My Company's Rating	
	Strong	Weak
Risk taking is acceptable to management.		
New ideas and new ways of doing things are welcomed.		
Information is free flowing—and not controlled by managers.		
Employees have access to knowledge sources: customers, benchmarking partners, the scientific community, and so forth.		
Good ideas are supported by executive patrons.		
Innovators are rewarded.		

## Risk Taking Is Acceptable to Management

Risk aversion is normal and healthy. But progress and risk are inseparable companions. You cannot have one without the other. “You have to promote risk-taking,” Esther Dyson told readers of *Harvard Business Review*. “Be open to experimentation and philosophical about things that go wrong. My motto is, ‘Always make a new mistake.’ There’s no shame in making a mistake. But then learn from it and don’t make the same one again. Everything I’ve learned, I’ve learned by making mistakes.”<sup>1</sup>

Management must recognize the risk/reward relationship and find organizational mechanisms for handling it. And it must communicate a clear understanding that reasonable risks are acceptable, since they are the handmaidens of progress. On the innovative front, two methods are available for dealing with risk: diversification and cheap failures. They can and should be used in concert.

Diversification allows companies to spread risk over many rolls of the dice, as opposed to betting the company on a single roll. For example, if one hundred individuals are taking calculated risks on innovative ideas, experience generally shows that some will be total failures, others will roughly break even, and some others will be very successful, producing a net positive outcome for all one hundred ventures. Because one can never know in advance which ideas will be winners and which will be losers, having a diversified “portfolio” of ideas in play makes sense.

Cheap failure is the second method for dealing with risk. A cheap failure is a project or experiment that is terminated with the least possible outlay of resources—just enough to tell managers that “This isn’t going to work.” A direct analogy to cheap failure is found in card playing. A smart card player knows that he can’t expect to win if he stays out of play, so he puts down his ante and waits for his cards. If those cards are strong, he’ll stay in the game, matching or raising other bids. As he draws more cards, the player will decide whether staying in a particular game is worth the cost. His goal is to get out of losing games as quickly and cheaply as possible. Smart companies treat ideas in the same way. They back promising ideas

with small budgets and look for ways to test them with the least input of resources. Like card players, they quickly fold when they recognize that they have a weak hand. Conversely, they increase backing for strong ideas.

### **New Ideas and New Ways of Doing Things Are Welcomed**

The worst environment for creativity is one that is unwelcoming to new ideas. "Why bother to come up with new ideas," people ask, "when management shoots down everything?" Some senior managers are so bound up with the status quo that they have no enthusiasm for anything that's new or different. "We've been successful over the years by doing things this way, so why should we change?" An organization with this attitude is heading for trouble.

In fairness, management is compelled to shoot down good ideas when (1) those ideas lack a strategic fit with the business, or (2) the organization lacks the resources to pursue them. In these cases, however, management has a responsibility to communicate its reasoning to employees.

Beyond welcoming new ideas, the organization should view innovation as a normal part of business—not a special activity practiced by a handful of employees. That's the advice of Craig Wynett, general manager of future growth initiatives at Procter & Gamble. "What we've done to encourage innovation is make it ordinary," says Wynett.

*By that I mean we don't separate it from the rest of our business. Many companies make innovation front page news, and all that special attention has a paradoxical effect. By serving it up as something exotic, you isolate it from what's normal. . . . At P&G, we think of creativity not as a mysterious gift of the talented few but as the everyday task of making non-obvious connections—bringing together things that don't normally go together. . . .*

*Isolating innovation from mainstream business can produce a dangerous cultural side effect: Creativity and leadership can be perceived as opposites. This artificial disconnect means that innovators often lack the visibility and clout to compete for the resources necessary for success.<sup>2</sup>*

## **Information Is Free Flowing**

Information can stimulate thinking, which leads to idea generation. Here's why. As explained earlier in this book, many creative ideas are formed at the intersection of different lines of thought or technology. For example, Harold is working on vehicle steering systems; Maude is an expert in electromechanical applications. When these two communicate and share information, they get an idea for an electronic steering system that hasn't yet been considered.

In hierarchical firms, information is often hoarded as a source of organizational power. Information flows are controlled and channeled through the chain of command. People must demonstrate a "need to know" to have access to certain information. This control impedes the catalytic function of communication and limits opportunities for different pieces of information to intersect and combine in people's minds. For example, if Harold and Maude are not able to communicate directly with one another, their new idea may not form.

Managers can encourage the free flow of information in many ways: through e-mail, the physical co-location of team members, joint work sessions, and regular brown-bag lunches. This topic is explored further in the section "Enriching the Physical Workplace."

## **Employees Have Access to Knowledge Sources**

Just as employees must have free-flowing lines of communication between one another, so too they need access to sources of knowledge—both inside and outside the organization. That knowledge is often the raw material of creative thought.

Some companies have developed elaborate knowledge management systems to capture knowledge, store it, and make it easily available for reuse. These systems help ensure that what was learned by someone in Unit A doesn't have to be learned anew by someone in Unit B. Lee Sage has described DaimlerChrysler's Engineering Books of Knowledge (EBOKs), a knowledge management database containing technical data, lessons learned, and best practices that is made available to the company's engineering community. The purpose of

the EBOKs, according to Sage, is to capture the expert knowledge of technical employees and use it to improve engineering productivity, speed new product development, and avoid repeating past mistakes.<sup>3</sup> Consulting and tax accounting companies use knowledge management systems in similar ways.

Another way to help employees tap sources of internal knowledge is through the creation of communities of interest. A *community of interest* is an informal group whose members share an interest in some technology or application. The group might be a dozen engineers from different operating units who share a common interest in adhesive applications. It might be a group of managers interested in benchmarking techniques. Whatever the interest may be, newsletters and periodic meetings held by these communities provide opportunities to share knowledge and spark the imagination.

External knowledge is equally important as a stimulant to innovation. External knowledge invigorates and adds vitality to organizations. Employees access that knowledge when they have opportunities to attend professional and scientific meetings and to visit customers and benchmarking partners, and when outside experts are brought in to share their know-how via lectures and workshops.

One of the classic cases of tapping external sources of knowledge occurred in the early 1980s when Xerox Corporation sent a team of logistics personnel to visit the warehouse of outdoor outfitter L.L. Bean in Freeport, Maine. Xerox had identified picking, packing, and shipping of individual replacement parts and user supplies as a critical bottleneck in its fulfillment operation. To eliminate that bottleneck, it began searching for best-practice know-how. Library research turned up an article identifying L.L. Bean as a company that had mastered the art of quickly and accurately filling small, individual orders of one to three items—just what Xerox was attempting to do without success. Within a short time, a Xerox team was dispatched to Freeport to observe L.L. Bean's methods, which were later adapted successfully to the copier company's fulfillment process.<sup>4</sup>

What sources of external knowledge are your people tapping today? Do they have resources and management encouragement to seek out relevant knowledge?



## **Good Ideas Are Supported by Executive Patrons**

Organizations need people in high places who will champion good ideas and provide them with moral support and protection as they travel the bumpy road toward commercialization. Leifer and colleagues observed a form of executive patronage in each of the radical innovation projects they studied. They concluded, for example, that IBM's silicon germanium computer chip project would not likely have survived without the implicit protection of two senior IBM executives, who over a period of years provided under-the-table resources to keep that project alive. They observed the same at General Electric, where a now-successful digital x-ray technology would have died on the vine had it not been for the backing of two high-placed executives—one being then-CEO Jack Welch.<sup>5</sup>

If you had a great idea, would anyone in senior management have the interest and the courage to act as its patron? Would that person provide protection and resources?

Although executive patronage is often necessary for radical innovation, such support is not always well directed. Senior executives are not necessarily more clairvoyant than other managers, and they sometimes place their bets on the wrong ponies. Motorola's Bill Galvin backed the costly Iridium misadventure. Polaroid's Edwin Land invested heavily in Polarvision, a failed attempt to produce instant movies. And Steve Jobs, who demonstrated great foresight in other areas, lost heavily in his support of NEXT. Nevertheless, research points to executive patronage as an important contributor to radical innovation.

## **Innovators Are Rewarded**

Creativity will not flourish in the absence of a reward system that encourages individuals to stretch beyond the bounds of normal work. Creative energy is quickly dissipated and must be replenished somehow. Rewards serve this purpose.

Rewards can be based on the following:

- **Recognition:** Acknowledging individual or group achievement with a plaque or public announcement

- **Control:** Allowing an individual or group to participate in decision making or giving the individual or group the resources needed to carry out a project
- **Celebration:** For example, acknowledging a successful new-product launch by throwing a party
- **Rejuvenation:** Providing time off or away from the task

As described in chapter 6, motivating rewards can either be intrinsic or extrinsic. An *intrinsic reward* appeals to a person's desire for self-actualization, curiosity, enjoyment, or interest in the work itself. An *extrinsic reward* appeals to a person's desire for attainment distinct from the work itself: a cash bonus, a promotion, or stock options. These two sources of motivation work hand in hand. Especially when the work is not routine, intrinsic motivation can help generate creative thought. Just make sure that the rewards or incentives you establish don't become more important than the work itself, thereby undermining team members' intrinsic motivation. At the same time, don't underestimate the power of money, recognition, or other incentives to bolster a group member's self-esteem and thus enhance his or her intrinsic motivation.

It's highly unlikely that you'll have the authority to create a compensation plan for your team, but there probably are areas where you have the power to tweak the existing system with informal rewards to better suit your team's situation.

Some companies have deliberately shaped their organizational practices and policies to support employee creativity and innovation. St. Paul-based 3M Company is one, and it has a longer history of doing so than just about any other U.S. firm. Long before anyone thought to study or codify the creativity-enhancing characteristics described in this chapter, 3M had woven them into the fabric of its corporate culture (see "The 3M Way to Creativity and Innovation").

As this chapter makes clear, creativity is a function of many things, including how it is managed. For a diagnostic checklist that you can use to evaluate the creativity of your workplace, see Appendix B.

## The 3M Way to Creativity and Innovation

3M has evolved from a maker of sandpaper to a manufacturer of hundreds of different products, including adhesives, films, and fiber optics. In almost a century, it has commercialized over fifty thousand products. Its success as an innovator is generally attributed to its corporate culture, which very deliberately fosters creativity by giving employees the freedom to take risks and tinker with new ideas. That culture is a legacy of William L. McKnight (1887–1978).

McKnight joined 3M in 1907 as an assistant bookkeeper but rose rapidly through the ranks, becoming president in 1929 and board chairman in 1949. During his tenure he worked to create a culture that put employees in direct contact with customer problems and that encouraged initiative and innovation. His philosophy was to listen to anyone who proposed an original idea and to let him or her run with that idea through “experimental doodling.” As he wrote in 1948:

*As our business grows, it becomes increasingly necessary to delegate responsibility and to encourage men and women to exercise their initiative. This requires considerable tolerance. Those men and women to whom we delegate authority and responsibility, if they are good people, are going to want to do their jobs in their own way.*

*Mistakes will be made. But if a person is essentially right, the mistakes he or she makes are not as serious in the long run as the mistakes management will make if it undertakes to tell those in authority exactly how they must do their jobs. Management that is destructively critical when mistakes are made kills initiative. And it's essential that we have many people with initiative if we are to continue to grow.<sup>6</sup>*

Today the company backs up McKnight's management philosophy with a number of creativity-supporting practices. Here are just a few:

- McKnight's notion of experimental doodling is institutionalized into 3M's unofficial "15 Percent Rule," which allows technical and scientific employees to use that percentage of their time to pursue ideas unrelated to their official assignments. The 15 Percent Rule has spawned a number of commercially successful products over the years.
- The work of outstanding technical employees is recognized by admission to the prestigious Carlton Society, which opens its doors to a few remarkable innovators each year. These individuals are chosen by their peers in recognition of their outstanding contributions to new technologies and 3M products.
- Teams that create products that earn \$4 million or more in profitable revenues receive the Golden Step award.
- Employees can choose between management and technical career ladders. Not everyone is cut out to be a manager, and not all who are qualified for management want to leave the laboratory.

These organizational features are part of 3M's culture of innovation, and they help account for the company's success in producing new and useful products decade after decade. That culture is changing with new management and a new competitive environment, so there is no guarantee that it will remain a culture of innovation.

## **Enriching the Physical Workplace**

As we've seen, organizational features—culture, if you will—have an effect on the creative output of managers and employees. If the organizational environment doesn't expect, encourage, or honor creativity, it will get exactly what it anticipates—very little. In contrast, organizations that have been wellsprings of creativity over many

decades (companies such as 3M, Ciba-Geigy, Corning, Siemens, Sony, Hewlett-Packard, Merck, Motorola, Nokia, and Procter & Gamble) organize and behave as though creativity matters.

Physical surroundings can also have an impact on creativity. Even though space costs are usually second only to people costs, many executives are just awakening to the importance of the physical environment. Like the organizational environment, the physical environment can be engineered in ways that encourage higher creative output. For example, when an environment is filled with many types of stimuli and when it provides physical and electronic links between individuals, it encourages people to see new connections and to think more broadly.

In the late 1990s, a team of researchers at MIT's School of Architecture and Planning—the Space Organization Research Group (SORG)—began looking at the connection between workspace design and work processes. They found that, in general, companies attempt to fit work processes into a fairly standard set of physical surroundings—the warren of office cubicles and conference rooms that most of us inhabit from 9 to 5. These companies allow work processes to be determined by existing spaces, which are essentially fixed. This is like putting the cart before the horse. Work processes need the flexibility to be altered from time to time as objectives vary.

One of SORG's more interesting case studies involved a workspace being developed for a new project team at a Xerox Corporation research center in New York state.<sup>7</sup> There, the space and the work were designed simultaneously and with a high level of coordination. Team members were co-located for easier communication with each other and with the physical equipment that occupied their thoughts and experiments. Lines of movement into, out of, and through the workspace were deliberately laid out to create opportunities for frequent and convenient contact between teammates. Meeting rooms were designed so that physical artifacts in the labs were in sight and physically accessible. Meetings were open to all.

Though the actual outcome of the Xerox case could not be determined during the period of SORG's observation, a small but

growing body of research is demonstrating what intuition would tell us—that workspace design and work effectiveness are linked.

Modern management's shift toward less formal, team-based ways of working has forced architects and designers to develop spaces that are more adaptable to work process changes and more supportive of creative and cognitive patterns of work. This is the logic behind BMW's Munich engineering center, known as FIZ.

FIZ, which opened in 1987, is based on the concept of co-location. It brings together in one site everyone concerned with auto product development, including BMW's suppliers. Approximately five thousand researchers, engineers, and technicians currently work in the FIZ, which is designed around a network that links various groups together. The maximum walking distance between any two FIZ occupants is 150 meters. That encourages physical contact and informal communication between the many people who work toward common objectives. DaimlerChrysler attempted something very similar—but on twice the scale—when it built its Technology Center in Auburn Hills, Michigan.

What's the nature of your workplace? Do you work out of a closed office where contacts with other key people are strictly accidental or planned in advance?

What is the physical distance between you and the people with whom you should be interacting and sharing ideas on a regular basis? Organizational researchers have known for a long time that the frequency of communication between coworkers decreases dramatically as the physical distance between them increases. As MIT researcher Tom Allen discovered years ago, "People are more likely to communicate with those who are located nearest to them. Individuals and groups can therefore be positioned in ways that will either promote or inhibit communication."<sup>8</sup> Thus, workspace design and the physical location of project team members have a major impact on the depth of communication and knowledge sharing.

Table 7-2 is a worksheet for inventorying your workspace and generating ideas for improvement. Further tips for making the physical environment more friendly to creativity can be found in "Tips for Improving the Physical Environment."

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## Enhancing the Creativity of the Physical Workspace

Dimension	Current Condition	Ideas for Improvement
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Accessible, casual  
meeting space

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Physical stimuli  
(for example, books,  
videos, art on walls,  
journals)

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Space for quiet  
reflection

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Variety of communication  
tools (for example,  
whiteboards, bulletin boards,  
e-mail)

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Employee-only space

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Customer contact space

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Space for individual  
expression

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Game or relaxation area

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For an interactive version of this worksheet and other relevant tools, visit  
<http://www.elearning.hbsp.org/business tools>.

Source: HMM Managing for Creativity and Innovation.

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## *Tips for Improving the Physical Environment*

You may not be able to design your workspace from the ground up, but there are valuable—and relatively inexpensive—steps you can take to enhance your team's physical surroundings. The idea is to encourage the interactions that lead to information sharing and creative ideas.

- Conversations and spontaneous meetings often occur in public areas: mailrooms, kitchens, and around water coolers. So make these spaces into comfortable gathering places where people will linger and share ideas.
- Place beanbag chairs in alcoves to create casual meeting areas.
- Place whiteboards and flip charts in places where people naturally congregate. This will allow them to sketch out their ideas during spontaneous discussions.
- Spread crayons and white paper on conference and lunch room tables to encourage doodling and idea diagramming—two modes of thought that are very different from verbal discussion.
- Institute a weekly brown-bag lunch at which people take turns telling their coworkers about their ideas and soliciting feedback.
- Give teams “war rooms” in which they can meet, plan, post information, and display competing products.



## Summing Up

This chapter focused on the institutional factors that promote or stifle creativity. The first of these were organizational. Six approaches to enriching the creativity of the organization were suggested:

1. Acceptance of risk taking
2. Welcoming new ideas and ways of doing things
3. Ensuring a free flow of information
4. Giving employees access to knowledge sources
5. Support of good ideas by executives
6. Rewarding innovators

But the organization of a company isn't everything. The physical workplace can also inhibit or enhance creativity. Drawing on several lines of research, the following practices were suggested:

- Design space and the work processes together.
- Co-locate teams and knowledge sources for easier communication with each other and with the physical equipment that occupies their thoughts and experiments.
- Design the physical space so that contact between teammates is frequent and convenient.

# What Leaders Must Do

*Making a Difference*

## Key Topics Covered in This Chapter

- *Developing a culture that nurtures creativity and innovation*
- *Establishing the strategic direction within which innovation should take place*
- *Being involved with innovation*
- *Being open but skeptical*
- *Improving the idea-to-commercialization process*
- *Applying portfolio thinking*
- *Putting the right people in charge*
- *Creating an ambidextrous organization*

**J**UST ABOUT EVERYTHING that gets done in a sizable company with respect to idea generation and development is accomplished by middle-level managers and people below them on the organizational chart. But the senior leadership also has a role to play—in shaping the culture, giving direction, allocating resources, and creating balance between what matters today and in the future. This chapter explains, in broad strokes, what leaders must do to assure that innovation flourishes.

## **Develop an Innovation-Friendly Culture**

The impact of organizational culture on creativity and idea generation was discussed in chapter 7. In the absence of a supportive culture, creativity and innovation are like seedlings planted in arid, rocky soil. They simply won't germinate and grow.

Tushman and O'Reilly point to pre-Gerstner IBM as a culture in which innovation fell on arid soil. It was, in their words, “a culture characterized by an inward focus, extensive procedures for resolving issue through consensus and ‘push back,’ arrogance bred by previous success, and a sense of entitlement on the part of some employees that guaranteed jobs without a quid pro quo.”<sup>1</sup> If those words describe your company's culture, then creativity and innovation are not likely to flourish, and the most innovative people will become discouraged and dispirited. The antidote is cultural change, which is a job for senior leaders, who should ask themselves the following questions:

- Is our current success making us self-satisfied and complacent?
- Are we inwardly focused?
- Do we punish risk takers who fail?
- Are creative people and new ideas unwelcome in this company?
- Are we excessively bureaucratic in how we handle new ideas?
- Do we fail to reward acts of creativity?

If you answered “yes” to any one of these questions, a serious evaluation and adjustment of your organizational culture may be in order.

Unfortunately, cultural change is the most difficult type of change. Top management and a small team of consultants can change the structure of an organization by fiat through reorganization, merger, or divestiture. Change that involves downsizing can also be commanded from the top. But to change an organization’s culture, people must be motivated and induced to think and act differently. That’s a major shift that takes time and the support of people at every level. In many cases a major crisis is required to get that support. British Airways, Continental Airlines, and IBM each experienced crises in the 1990s, and in each case a combination of immediate peril and strong leadership provided the motivation that employees needed to support cultural change.

This raises an important question: “Do we have to wait for a crisis before change is possible?” No, according to Harvard Business School professor Mike Beer. He believes that change leaders can create legitimate concerns about the current situation and offers the following four approaches for doing so.<sup>2</sup> Collectively, they urge management to challenge complacency.

1. **Use information about the organization’s competitive situation to generate discussion with employees about current and prospective problems.** Top management, according to Beer, often fails to understand why employees are not as concerned about innovation, customer service, or costs as they are. Too often this is because management has failed to put employees in

touch with the relevant data in the absence of data, everything appears to be fine.

2. **Create dialogue on the data.** Providing data is one thing. Creating dialogue on the data is something entirely different and more productive. Dialogue should aim for a joint understanding of company problems. Dialogue is a means by which both managers and employees can inform each other of their assumptions and their diagnoses.
3. **Create opportunities for employees to educate management about the dissatisfactions and problems they experience.** In some cases, top management is out of touch with the weaknesses of the business or emerging threats—things that front-line employees understand through daily experience on the factory floor or in face-to-face dealings with customers. If this is your company's problem, find ways to improve communications between top management and front-line people.
4. **Set high standards and expect people to meet them.** The act of stating high standards creates dissatisfaction with the current level of performance.

### *Tips for Changing Organizational Culture*

- Make sure that all four of these change-ready conditions are present:
  1. Leaders are respected, credible, and effective.
  2. People are dissatisfied with the status quo and feel personally motivated to change.
  3. The organization is nonhierarchical.
  4. People are accustomed to and value collaborative work.

Changing the culture of an organization in the absence of these conditions is extremely difficult. So if your company lacks any one condition, work on it first.

- Mobilize energy and commitment to change through joint diagnosis of business problems. Remember, you can't order energy and commitment the way you would a monthly report, but you can generate energy and commitment if you involve people in the process of identifying problems and solutions. In most cases, they will know more about the problems than you will because they are closer to them.
- Don't try to change everything at once. Unless the entire organization is in crisis, begin with change-ready units far from corporate headquarters, where local managers and their people can run the show and maintain control. Use successful change in those units as test beds from which to spread change gradually to other units.
- Create an appealing and shared vision of the future. People won't buy into the pain and effort of change unless they can see a future state that is tangibly better—and better for them—than the one they have at the moment. Successful change leaders form such a vision and communicate it in compelling terms.
- Support change from the top, but leave the thinking and doing to unit leaders and those most affected by the change. Above all, don't put human resources personnel in charge. Give the responsibility to unit line managers.
- Celebrate milestones. Cultural change is a long journey with many milestones. Celebrating the achievement of each milestone recognizes progress and reenergizes commitment.

## Establish Strategic Direction

Setting strategic direction is another responsibility of senior leaders. If creative people don't understand where the company is headed, they are likely to generate and pursue ideas that don't fit, that eat up resources, and that will eventually be rejected prior to commercialization. That costs money and dissipates the energy of idea generators.

Since both creative energy and money are scarce commodities, it makes sense to encourage idea generation within boundaries defined by company strategy. For example, if you're a direct-mail apparel merchandiser, you may wish to encourage ideas that fall within the boundaries of "providing better linkages with our customers and providing fast and accurate order fulfillment." Within those strategy-related boundaries, new ideas for improving customer intelligence, order processing, and logistics would be welcomed. Set the boundaries right and your company's creative energies will naturally focus themselves in areas with the greatest payoff potential.

The effect of setting strategic direction and establishing boundaries for ideas will be much greater if you do three things:

1. **Communicate.** This might seem obvious, but it's rare to find an organization whose employees can clearly articulate company strategy—particularly employees at lower levels. "I just do my job," they'll say. So communicate strategic direction clearly and often.
2. **Hire right.** Every innovative organization has to see selection and recruitment as a critical issue and not a distraction to getting the everyday work done. Use every hiring opportunity to populate the organization with people whose special training, experience, or personal interests are aligned with the strategic direction of the company.
3. **Align resources with strategy.** People follow the money. Once they see ideas that fall within stated boundaries being funded for development, they'll channel their creative energies in that direction. Senior management should also review its existing development projects and pull the plug on those that no longer enjoy a strategic fit.

## Be Involved with Innovation

Some of the best and most successful executives were happiest and most effective when they were down in the R&D lab rubbing elbows with bench scientists and technicians. Bill Hewlett, David Packard, and Motorola's Bob Galvin fit this description. So does Bill Gates today. It's impossible to make a direct correlation between the R&D involvement of these executives and the success of their organizations, but we know intuitively that leaders cannot make good decisions if they operate in a vacuum or think of innovation as a mysterious force. They must understand the technical issues facing their organizations and the portfolio of ideas and projects that are in the pipeline at any given time. Hewlett, Packard, Galvin, and Gates all did this.

More important, leaders must assess the individual innovators who drop new ideas into their laps from time to time.

- Who are these people anyway?
- Do they have good judgment?
- Do they understand customers and the way customers see the world?
- Are they cautious optimists or hucksters who'll give you all the reasons to say "yes" but conceal every reason to say "no"?

These questions cannot be answered if decision makers and innovators operate in orbits that never intersect. The best way to answer these questions and provide leadership for innovation is to be personally involved. So visit the research center on a regular basis. Have lunch with project teams. Get to know key people one-on-one. Try to understand the technical hurdles that stand between appealing ideas and their commercialization.

Research by Harvard Business School Dean of the Faculty and George F. Baker Professor of Administration Kim Clark and professor Steven Wheelwright indicates that few senior leaders follow that advice.<sup>3</sup> Their involvement in development projects typically begins when projects are nearing the end of the development pipeline—in the pilot or manufacturing ramp-up stages. This is too late in the



game to affect the shape or direction of these projects, and reduces the role of senior leadership to saying “Kill” or “Go.”

Organizational leaders should do just the opposite. They should be visible and personally involved in the early stages of the innovation process. Doing so has four important benefits:

1. It sends a powerful signal to employees that innovation matters.
2. It provides senior management with opportunities to articulate the strategic direction of the firm and the boundaries within which innovation should be pursued.
3. It gives senior management a direct hand in the design of products and services that will define the company in the future.
4. It educates leaders on technical and market issues and prepares them to act as recognizers and patrons of good ideas.

So if you are a senior manager, ask yourself these questions:

- Am I spending only a very small percentage of my time on the innovation front?
- Am I leaving early design decisions to low-level personnel who may not understand the big picture of our business?
- Have I become insulated from the technological issues shaping our business?
- Is my involvement so late in the process that my only interest is in whether a project will clear financial hurdles?

If you answered “yes” to any of these questions, you need to reconsider how you’re spending your time. Innovation and R&D are the crucibles within which the future company is being formed today—you need to be there.

## **Be Open but Skeptical**

Close contact with innovation and R&D will test your judgment. Some people will “pitch” their ideas to you and look for support and resources.

Approach these encounters with a balance of open-mindedness and scientific skepticism. That means two things: (1) demonstrating an interest in new ideas, even when they challenge the company's current products and ways of operating, and (2) simultaneously maintaining scientific skepticism. The two are not incompatible; they can be achieved through honest dialogue, as in this example:

**Idea Generator:** I think that this new service would really sell.

**Leader:** Really? To whom?

**Idea Generator:** Well, to our current customers and to others.

**Leader:** Why do you believe that? What problem would the service solve for them?

**Idea Generator:** It would save them lots of time.

**Leader:** How much time would it actually save them? And how much would they be willing to pay for that benefit?

**Idea Generator:** I can't answer either of those questions yet.

**Leader:** Then give some thought to how we can find the answers, and let's talk again.

Notice how the leader in this example demonstrated an interest in the idea by suggesting a course of action but reserved judgment until the uncertainties are reduced. Responsibility for reducing those uncertainties is placed on the shoulders of the idea generator. If you use a stage-gate system, each gate provides an opportunity to test the validity of ideas and projects in this way. As a leader, you should participate in that system at the most strategic and critical points. In most cases, those will be the initial gates, where the fit with strategic direction is generally determined.

## **Improve the Idea-to-Commercialization Process**

Earlier in this book we described an innovation process that begins with idea generation and then proceeds through various stages that

evaluate and develop worthy ideas into commercialized products and services. Like every process, the innovation process should be continually scrutinized for improvement opportunities. Make sure that your process

- Generates a sufficient number of good ideas. If it's not generating enough good ideas, find the root cause and fix it.
- Is free of the bottlenecks that impede development and frustrate innovators.
- Is free of politics.
- Encourages calculated risk taking.
- Is nonarbitrary.
- Creates cheap failures.
- Channels resources to the most worthy projects.
- Involves people who understand the company's capabilities, its strategy, and its customers.

Like cultural change, improving the innovation process is a job for senior management. And it's one of the most important jobs they will ever handle.

## **Apply Portfolio Thinking**

Only the smallest firms deal with one or two development projects. In contrast, big firms may have dozens of funded projects in play at any given time. Some may be low-risk, short-term projects that aim to incrementally improve an existing product. Others may represent a radically new concept that aims to create new markets. Still others may fall between these two extremes. Because incremental and radical projects entail substantial differences in risk levels, time frames, and potential payoffs, management must employ portfolio thinking in dealing with them. Portfolio thinking helps managers to see a collection of ongoing

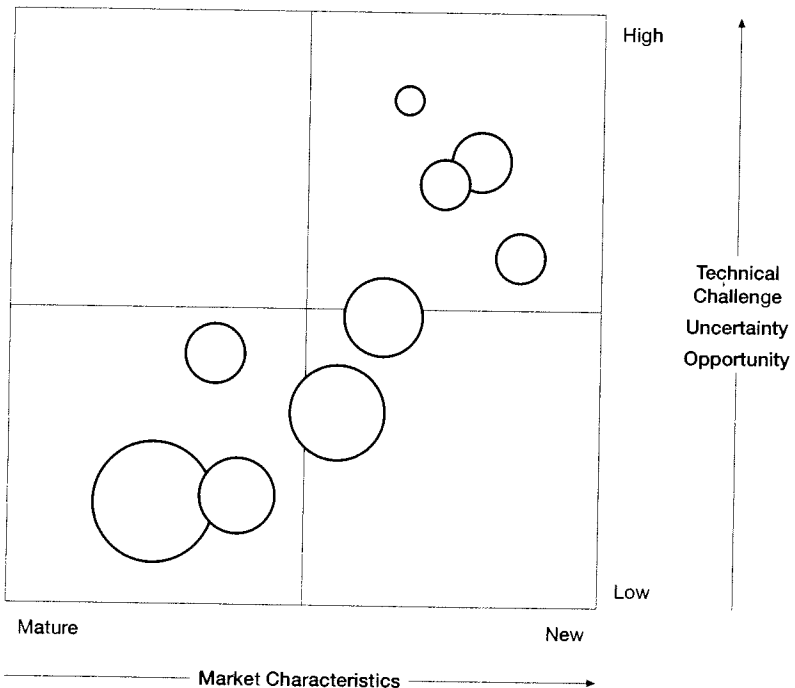
projects in terms of its overall risk/return characteristics. Once they understand those characteristics, they can shape and manage the portfolio to achieve the right balance of risk and potential return.

As a first step toward portfolio thinking, it is often helpful to map ongoing projects onto a two-dimensional matrix like the one in figure 8-1. Here, the horizontal axis indicates the maturity or “new-ness” of market or technology factors. The vertical axis indicates rising levels of technical challenge, uncertainty, and economic opportunity. Each circle in the matrix represents a project, and the size of each circle indicates the magnitude of resources dedicated to it.

As this matrix indicates, the biggest projects are cautious ones. They have mature technical and market characteristics. Likewise, these

FIGURE 8-1

### Innovation Portfolio Matrix



projects are among the least technically challenging and involve the least risk and potential opportunity for the company. Many small projects populate the upper-right quadrant. These involve higher technical risk and address new markets, but they also hold the prospect for greater economic opportunity for the company.

Try constructing a similar matrix for your company. Once you've mapped out your current projects, what does it tell you? If most projects and resources are located in the lower-left quadrant, your company is being very risk averse and may be doing too little to address future opportunities, new technologies, and new markets. On the other hand, if most projects and resources are in the upper-right quadrant, it is being very aggressive. What would constitute a suitable risk/reward balance for your company? Who could articulate that balance?

### *Tips for Senior Management*

- Keep friends and yes-men off the board. You need unvarnished advice as you consider investing in innovative ideas.
- Surround yourself with people who have complementary skills and different approaches to analyzing issues and making decisions. Listen to their suggestions and arguments, even if you disagree. These other voices can help you to avoid walking off a cliff.
- Learn when to cut your losses. To win any game, you must participate. But don't play every game to the end. Recognize when you're pouring resources down a dry hole, and have the fortitude to bail out when you do.
- Always double-check your assumptions. What looks rosy can be a disaster if those assumptions are not realistic.

## **Put People with the Right Stuff in Charge**

Some of the most important decisions that senior executives make involve the selection of R&D managers. These managers are closest to the activities that eventually determine the company's future products and services. But what types of people are most suitable?

Generally, executives should look for people with a balance of strong technical backgrounds and familiarity with the larger concerns of the organization. Specifically, potential R&D managers should (1) have a good feel for the trajectories of technologies important to the company and (2) have practical experience in dealing with customers. Not many people have these two qualities, but those who do are in a much better position to recognize good ideas and understand how they might solve customer problems.

R&D managers are few, even in large organizations. But the general climate for innovation can be improved if executives hire the right middle managers. In her study of innovative middle managers, Rosabeth Moss Kanter found a number of common characteristics. Such managers

- Were comfortable with change
- Viewed unmet needs as opportunities
- Selected projects with great care
- Adopted long time horizons and viewed setbacks as bumps on the road to success
- Were always prepared and professional in making presentations
- Understood organizational politics and where they could get support when needed
- Practiced participative management

These managers could operate with these characteristics, in Kanter's view, because they worked in organizations whose cultures supported collaboration and teamwork and where people were encouraged to "do what needs to be done."<sup>4</sup>

## Create an Ambidextrous Organization

Michael Tushman and Charles O'Reilly propose that successful leaders of innovation create "ambidextrous" organizations—that is, organizations that can "get today's work done more effectively and [also] anticipate tomorrow's discontinuities."<sup>5</sup> These are two very different and seemingly contradictory capabilities. Organizations that have them are capable of excelling in the present even as they create the future. They defend their current product or technology positions through incremental innovation while simultaneously developing new ones that will either displace current offerings or address new markets.

Leifer and coworkers reached a similar conclusion in their study of radical innovation in established companies. In their view, the greatest challenge for senior management is balancing their focus on the short-term performance of the existing business as they pursue long-term growth through innovation.<sup>6</sup> These are two very different games, and few companies play both games well. The source of the challenge is not hard to understand. Success in the current business is usually driven by certainty, efficiency, and cost control; the future business, on the other hand, is the product of an innovation process that is uncertain, inefficient, and costly. Not many executives can operate successfully in these two very different worlds. Most are so absorbed with the current business that the future business is treated as a stepchild.

The best way to create an ambidextrous organization is to do the following:

- **Assess where you are in terms of innovation trends.** Are your current products and technologies on the rapid upward slope of the S-curve, or are they in the mature phase of the curve? Do new technologies have the potential to undermine your business?
- **Assess your company's operations.** Are they effective, fast, and efficient? Are major cost improvements possible?

Based on the results of these two assessments, reorder your priorities and resources. You need to be very good at both current operations and innovation.

## Summing Up

Although most idea generation and creativity takes place at mid-level and lower ranks, an organization's leaders play a key role. This chapter explained what leaders can do to stimulate creativity and increase the pace of innovation. It is their responsibility to

- Develop a culture that nurtures creativity and innovation
- Establish the strategic direction within which innovation should take place
- Be active participants in the process that runs from idea generation to commercialization
- Be open to new ideas but maintain scientific skepticism
- Improve the idea-to-commercialization process
- Think of ideas and project in terms of a portfolio with distinct risk and return dimensions
- Put the right people in charge

Finally, senior leadership must take responsibility for creating an ambidextrous organization—one that is effective at two very different activities: getting today's work done (operations) and anticipating the future. Few organizations do both well.