

How to kill creativity.(personnel management)(includes related articles on creativity)

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Many businesses are managed in such a manner that employees' creative ideas are crushed. It is possible to combine business imperatives and creativity in an organization, but managerial policies must be carefully engineered. Business creativity must be both useful and profitable; besides imagination, it also entails motivation and expertise. Management methods can encourage creativity, especially in the realm of motivation.

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Keep doing what you're doing. Or, if you want to spark innovation, rethink how you motivate, reward, and assign work to people.

When I consider all the organizations I have studied and worked with over the past 22 years, there can be no doubt: creativity gets killed much more often than it gets supported. For the most part, this isn't because managers have a vendetta against creativity. On the contrary, most believe in the value of new and useful ideas. However, creativity is undermined unintentionally every day in work environments that were established -- for entirely good reasons -- to maximize business imperatives such as coordination, productivity, and control.

Managers cannot be expected to ignore business imperatives, of course. But in working toward these imperatives, they may be inadvertently designing organizations that systematically crush creativity. My research shows that it is possible to develop the best of both worlds: organizations in which business imperatives are attended to and creativity flourishes. Building such organizations, however, requires us to understand precisely what kinds of managerial practices foster creativity -- and which kill it.

What Is Business Creativity?

We tend to associate creativity with the arts and to think of it as the expression of highly original ideas. Think of how Pablo Picasso reinvented the conventions of painting or how William Faulkner redefined fiction. In business, originality isn't enough. To be creative, an idea must also be appropriate -- useful and actionable. It must somehow influence the way business gets done -- by improving a product, for instance, or by opening up a new way to approach a process.

The associations made between creativity and artistic originality often lead to confusion about the appropriate place of creativity in business organizations. In seminars, I've asked managers if there is any place they don't want creativity in their companies. About 80% of the time, they answer, "Accounting." Creativity, they seem to believe, belongs just in marketing and R&D. But creativity can benefit every function of an organization. Think of activity-based accounting. It was an invention -- an accounting invention -- and its impact on business has been positive and profound.

Along with fearing creativity in the accounting department -- or really, in any unit that involves systematic processes or legal regulations -- many managers also hold a rather narrow view of the creative process. To them, creativity refers to the way people think -- how inventively they approach problems, for instance. Indeed, thinking imaginatively is one part of creativity, but two others are also essential: expertise and motivation.

Expertise encompasses everything that a person knows and can do in the broad domain of his or her work. Take, for example, a scientist at a pharmaceutical company who is charged with developing a blood-clotting drug for hemophiliacs. Her expertise includes her basic talent for thinking scientifically as well as all the knowledge and technical abilities that she has in the fields of medicine, chemistry, biology, and biochemistry. It doesn't matter how she acquired this expertise, whether through formal education, practical experience, or interaction with other professionals. Regardless, her expertise constitutes what the Nobel laureate, economist, and psychologist Herb Simon calls her "network of possible wanderings," the intellectual space that she uses to explore and solve problems. The larger this space, the better.

Creative thinking, as noted above, refers to how people approach problems and solutions -- their capacity to put existing ideas together in new combinations. The skill itself depends quite a bit on personality as well as on how a person thinks and works. The pharmaceutical scientist, for example, will be more creative if her personality is such that she feels comfortable disagreeing with others -- that is, if she naturally tries out solutions that depart from the status quo. Her creativity will be enhanced further if she habitually turns problems upside down and combines knowledge from seemingly disparate fields. For example, she might look to botany to help find solutions to the hemophilia problem, using lessons from the vascular systems of plants to spark insights about bleeding in humans.

As for work style, the scientist will be more likely to achieve creative success if she perseveres through a difficult problem. Indeed, plodding through long dry spells of tedious experimentation increases the probability of truly creative breakthroughs. So, too, does a work style that uses "incubation," the ability to set aside difficult problems temporarily, work on something else, and then return later with a fresh perspective.

Expertise and creative thinking are an individual's raw materials -- his or her natural resources, if you will. But a third factor -- motivation -- determines what people will actually do. The scientist can have outstanding educational credentials and a great facility in generating new perspectives to old problems. But if she lacks the motivation to do a particular job, she simply won't do it; her expertise and creative thinking will either go untapped or be applied to something else.

My research has repeatedly demonstrated, however, that all forms of motivation do not have the same impact on creativity. In fact, it shows that there are two types of motivation -- extrinsic and intrinsic, the latter being far more essential for creativity. But let's explore extrinsic first, because it is often at the root of creativity problems in business.

Extrinsic motivation comes from outside a person -- whether the motivation is a carrot or a stick. If the scientist's boss promises to reward her financially should the blood-clotting project succeed, or if he threatens to fire her should it fail, she will certainly be motivated to find a solution. But this sort of motivation "makes" the scientist do her job in order to get something desirable or avoid something painful.

Obviously, the most common extrinsic motivator managers use is money, which doesn't necessarily stop people from being creative. But in many situations, it doesn't help either, especially when it leads people to feel that they are being bribed or controlled. More important, money by itself doesn't make employees passionate about their jobs. A cash reward can't magically prompt people to find their work interesting if in their hearts they feel it is dull.

But passion and interest -- a person's internal desire to do something -- are what intrinsic motivation is all about. For instance, the scientist in our example would be intrinsically motivated if her work on the blood-clotting drug was sparked by an intense interest in hemophilia, a personal sense of challenge, or a drive to crack a problem that no one else has been able to solve. When people are intrinsically motivated, they engage in their work for the challenge and enjoyment of it. The work itself is motivating. In fact, in our creativity research, my students, colleagues, and I have found so much evidence in favor of intrinsic motivation that we have articulated what we call the Intrinsic Motivation Principle of Creativity: people will be most creative when they feel motivated primarily by the interest, satisfaction, and challenge of the work itself -- and not by external pressures. (For more on the differences between intrinsic and extrinsic motivation, see the insert "The Creativity Maze.")

Managing Creativity

Managers can influence all three components of creativity: expertise, creative-thinking skills, and motivation. But the fact is that the first two are more difficult and time consuming to influence than motivation. Yes, regular scientific seminars and professional conferences will undoubtedly add to the scientist's expertise in hemophilia and related fields. And training in brainstorming, problem solving, and so-called lateral thinking might give her some new tools to use in tackling the job. But the time and money involved in broadening her knowledge and expanding her creative-thinking skills would be great. By contrast, our research has shown that intrinsic motivation can be increased considerably by even subtle changes in an

organization's environment. That is not to say that managers should give up on improving expertise and creative-thinking skills. But when it comes to pulling levers, they should know that those that affect intrinsic motivation will yield more immediate results.

More specifically, then, what managerial practices affect creativity? They fall into six general categories: challenge, freedom, resources, work-group features, supervisory encouragement, and organizational support. These categories have emerged from more than two decades of research focused primarily on one question: What are the links between work environment and creativity? We have used three methodologies: experiments, interviews, and surveys. While controlled experiments allowed us to identify causal links, the interviews and surveys gave us insight into the richness and complexity of creativity within business organizations. We have studied dozens of companies and, within those, hundreds of individuals and teams. In each research initiative, our goal has been to identify which managerial practices are definitively linked to positive creative outcomes and which are not.

For instance, in one project, we interviewed dozens of employees from a wide variety of companies and industries and asked them to describe in detail the most and least creative events in their careers. We then closely studied the transcripts of those interviews, noting the managerial practices -- or other patterns -- that appeared repeatedly in the successful creativity stories and, conversely, in those that were unsuccessful. Our research has also been bolstered by a quantitative survey instrument called KEYS. Taken by employees at any level of an organization, KEYS consists of 78 questions used to assess various workplace conditions, such as the level of support for creativity from top-level managers or the organization's approach to evaluation.

Taking the six categories that have emerged from our research in turn, let's explore what managers can do to enhance creativity -- and what often happens instead. Again, it is important to note that creativity-killing practices are seldom the work of lone managers. Such practices usually are systemic -- so widespread that they are rarely questioned.

Challenge. Of all the things managers can do to stimulate creativity, perhaps the most efficacious is the deceptively simple task of matching people with the right assignments. Managers can match people with jobs that play to their expertise and their skills in creative thinking, and ignite intrinsic motivation. Perfect matches stretch employees' abilities. The amount of stretch, however, is crucial: not so little that they feel bored but not so much that they feel overwhelmed and threatened by a loss of control.

Making a good match requires that managers possess rich and detailed information about their employees and the available assignments. Such information is often difficult and time consuming to gather. Perhaps that's why good matches are so rarely made. In fact, one of the most common ways managers kill creativity is by not trying to obtain the information necessary to make good connections between people and jobs. Instead, something of a shotgun wedding occurs. The most eligible employee is wed to the most eligible -- that is, the most urgent and open -- assignment. Often, the results are predictably unsatisfactory for all involved.

Freedom. When it comes to granting freedom, the key to creativity is giving people autonomy concerning the means -- that is, concerning process -- but not necessarily the ends. People will be more creative, in other words, if you give them freedom to decide how to climb a particular mountain. You needn't let them choose which mountain to climb. In fact, clearly specified strategic goals often enhance people's creativity.

I'm not making the case that managers should leave their subordinates entirely out of goal- or agenda-setting discussions. But they should understand that inclusion in those discussions will not necessarily enhance creative output and certainly will not be sufficient to do so. It is far more important that whoever sets the goals also makes them clear to the organization and that these goals remain stable for a meaningful period of time. It is difficult, if not impossible, to work creatively toward a target if it keeps moving.

Autonomy around process fosters creativity because giving people freedom in how they approach their work heightens their intrinsic motivation and sense of ownership. Freedom about process also allows people to approach problems in ways that make the most of their expertise and their creative-thinking skills. The task may end up being a stretch for them, but they can use their strengths to meet the challenge.

How do executives mismanage freedom? There are two common ways. First, managers tend to change goals frequently or fail to define them clearly. Employees may have freedom around process, but if they don't know where they are headed, such freedom is pointless. And second, some managers fall short on this dimension by granting autonomy in name only. They claim that employees are "empowered" to explore the maze as they search for solutions but, in fact, the process is proscribed. Employees diverge at their own risk.

Resources. The two main resources that affect creativity are time and money. Managers need to allot these resources carefully. Like matching people with the right assignments, deciding how much time and money to give to a team or project is a sophisticated judgment call that can either support or kill creativity.

Consider time. Under some circumstances, time pressure can heighten creativity. Say, for instance, that a competitor is about to launch a great product at a lower price than your offering or that society faces a serious problem and desperately needs a solution -- such as an AIDS vaccine. In such situations, both the time crunch and the importance of the work legitimately make people feel that they must rush. Indeed, cases like these would be apt to increase intrinsic motivation by increasing the sense of challenge.

Organizations routinely kill creativity with fake deadlines or impossibly tight ones. The former create distrust and the latter cause burnout. In either case, people feel overcontrolled and unfulfilled -- which invariably damages motivation. Moreover, creativity often takes time. It can be slow going to explore new concepts, put together unique solutions, and wander through the maze. Managers who do not allow time for exploration or do not schedule in incubation periods are unwittingly standing in the way of the creative process.

When it comes to project resources, again managers must make a fit. They must determine the funding, people, and other resources that a team legitimately needs to complete an assignment -- and they must know how much the organization can legitimately afford to allocate to the assignment. Then they must strike a compromise. Interestingly, adding more resources above a "threshold of sufficiency" does not boost creativity. Below that threshold, however, a restriction of resources can dampen creativity. Unfortunately, many managers don't realize this and therefore often make another mistake. They keep resources tight, which pushes people to channel their creativity into finding additional resources, not in actually developing new products or services.

Another resource that is misunderstood when it comes to creativity is physical space. It is almost conventional wisdom that creative teams need open, comfortable offices. Such an atmosphere won't hurt creativity, and it may even help, but it is not nearly as important as other managerial initiatives that influence creativity. Indeed, a problem we have seen time and time again is managers paying attention to creating the "right" physical space at the expense of more high-impact actions, such as matching people to the right assignments and granting freedom around work processes.

Work-Group Features. If you want to build teams that come up with creative ideas, you must pay careful attention to the design of such teams. That is, you must create mutually supportive groups with a diversity of perspectives and backgrounds. Why? Because when teams comprise people with various intellectual foundations and approaches to work -- that is, different expertise and creative thinking styles -- ideas often combine and combust in exciting and useful ways.

Diversity, however, is only a starting point. Managers must also make sure that the teams they put together have three other features. First, the members must share excitement over the team's goal. Second, members must display a willingness to help their teammates through difficult periods and setbacks. And third, every member must recognize the unique knowledge and perspective that other members bring to the table. These factors enhance not only intrinsic motivation but also expertise and creative-thinking skills.

Again, creating such teams requires managers to have a deep understanding of their people. They must be able to assess them not just for their knowledge but for their attitudes about potential fellow team members and the collaborative process, for their problem-solving styles, and for their motivational hot buttons. Putting together a team with just the right chemistry -- just the right level of diversity and supportiveness -- can be difficult, but our research shows how powerful it can be.

It follows, then, that one common way managers kill creativity is by assembling homogeneous teams. The lure to do so is great. Homogeneous teams often reach "solutions" more quickly and with less friction along the way. These teams often report high morale, too. But homogeneous teams do little to enhance expertise and creative thinking. Everyone comes to the table with a similar mind-set. They leave with the same.

Supervisory Encouragement. Most managers are extremely busy. They are under pressure for results. It is therefore easy for them to let praise for creative efforts -- not just creative successes but unsuccessful efforts, too -- fall by the wayside. One very simple step managers can take to foster creativity is to not let that happen.

The connection to intrinsic motivation here is clear. Certainly, people can find their work interesting or exciting without a cheering section -- for some period of time. But to sustain such passion, most people need to feel as if their work matters to the organization or to some important group of people. Otherwise, they might as well do their work at home and for their own personal gain.

Managers in successful, creative organizations rarely offer specific extrinsic rewards for particular outcomes. However, they freely and generously recognize creative work by individuals and teams -- often before the ultimate commercial impact of those efforts is known. By contrast, managers who kill creativity do so either by failing to acknowledge innovative efforts or by greeting them with skepticism. In many companies, for instance, new ideas are met not with open minds but with time-consuming layers of evaluation -- or even with harsh criticism. When someone suggests a new product or process, senior managers take weeks to respond. Or they put that person through an excruciating critique.

Not every new idea is worthy of consideration, of course, but in many organizations, managers habitually demonstrate a reaction that damages creativity. They look for reasons to not use a new idea instead of searching for reasons to explore it further. An interesting psychological dynamic underlies this phenomenon. Our research shows that people believe that they will appear smarter to their bosses if they are more critical -- and it often works. In many organizations, it is professionally rewarding to react critically to new ideas.

Unfortunately, this sort of negativity bias can have severe consequences for the creativity of those being evaluated. How? First, a culture of evaluation leads people to focus on the external rewards and punishments associated with their output, thus increasing the presence of extrinsic motivation and its potentially negative effects on intrinsic motivation. Second, such a culture creates a climate of fear, which again undermines intrinsic motivation.

Finally, negativity also shows up in how managers treat people whose ideas don't pan out: often, they are terminated or otherwise warehoused within the organization. Of course, ultimately, ideas do need to work; remember that creative ideas in business must be new and useful. The dilemma is that you can't possibly know beforehand which ideas will pan out. Furthermore, dead ends can sometimes be very enlightening. In many business situations, knowing what doesn't work can be as useful as knowing what does. But if people do not perceive any "failure value" for projects that ultimately do not achieve commercial success, they'll become less and less likely to experiment, explore, and connect with their work on a personal level. Their intrinsic motivation will evaporate.

Supervisory encouragement comes in other forms besides rewards and punishment. Another way managers can support creativity is to serve as role models, persevering through tough problems as well as encouraging collaboration and communication within the team. Such behavior enhances all three components of the creative process, and it has the added virtue of being a high-impact practice that a single manager can take on his or her own. It is better still when all managers in an organization serve as role models for the attitudes and behaviors that encourage and nurture creativity.

Organizational Support. Encouragement from supervisors certainly fosters creativity, but creativity is truly enhanced when the entire organization supports it. Such support is the job of an organization's leaders, who must put in place appropriate systems or procedures and emphasize values that make it clear that creative efforts are a top priority. For example, creativity-supporting organizations consistently reward creativity, but they avoid using money to "bribe" people to come up with innovative ideas. Because monetary rewards make people feel as if they are being controlled, such a tactic probably won't work. At the same time, not providing sufficient recognition and rewards for creativity can spawn negative feelings within an organization. People can feel used, or at the least underappreciated, for their creative efforts. And it is rare to find the energy and passion of intrinsic motivation coupled with resentment.

Most important, an organization's leaders can support creativity by mandating information sharing and collaboration and by ensuring that political problems do not fester. Information sharing and collaboration support all three components of creativity. Take expertise. The more often people exchange ideas and data by working together, the more knowledge they will have. The same dynamic can be said for creative thinking. In fact, one way to enhance the creative thinking of employees is to expose them to various approaches to problem solving. With the exception of hardened misanthropes, information sharing and collaboration heighten peoples' enjoyment of work and thus their intrinsic motivation.

Whether or not you are seeking to enhance creativity, it is probably never a good idea to let political problems fester in an organizational setting. Infighting, politicking, and gossip are particularly damaging to creativity because they take peoples' attention away from work. That sense of mutual purpose and excitement so central to intrinsic motivation invariably lessens when people are cliquish or at war with one another. Indeed, our research suggests that intrinsic motivation increases when people are aware that those around them are excited by their jobs. When political problems abound, people feel that their work is threatened by others' agendas.

Finally, politicking also undermines expertise. The reason? Politics get in the way of open communication, obstructing the flow of information from point A to point B. Knowledge stays put and expertise suffers.

From the Individual to the Organization

Can executives build entire organizations that support creativity? The answer is yes. Consider the results of an intensive research project we recently completed called the Team Events Study. Over the course of two years, we studied more than two dozen teams in seven companies across three industries: high tech, consumer products, and chemicals. By following each team every day through the entire course of a creative project, we had a window into the details of what happened as the project progressed -- or failed to progress, as the case may be. We did this through daily confidential e-mail reports from every person on each of the teams. At the end of each project, and at several points along the way, we used confidential reports from company experts and from team members to assess the level of creativity used in problem solving as well as the overall success of the project.

As might be expected, the teams and the companies varied widely in how successful they were at producing creative work. One organization, which I will call Chemical Central Research, seemed to be a veritable hotbed of creativity. Chemical Central supplied its parent organization with new formulations for a wide variety of industrial and consumer products. In many respects, however, members of Chemical Central's development teams were unremarkable. They were well educated, but no more so than people in many other companies we had studied. The company was doing well financially, but not enormously better than most other companies. What seemed to distinguish this organization was the quality of leadership at both the top-management level and the team level. The way managers formed teams, communicated with them, and supported their work enabled them to establish an organization in which creativity was continually stimulated.

We saw managers making excellent matches between people and assignments again and again at Chemical Central. On occasion, team members were initially unsure of whether they were up to the challenge they were given. Almost invariably, though, they found their passion and interest growing through a deep involvement in the work. Their managers knew to match them with jobs that had them working at the top of their competency levels, pushing the frontiers of their skills, and developing new competencies. But managers were careful not to allow too big a gap between employees' assignments and their abilities.

Moreover, managers at Chemical Central collaborated with the teams from the outset of a project to clarify goals. The final goals, however, were set by the managers. Then, at the day-to-day operational level, the teams were given a great deal of autonomy to make their own decisions about product development. Throughout the project, the teams' leaders and top-level managers periodically checked to see that work was directed toward the overall goals. But people were given real freedom around the implementation of the goals.

As for work-group design, every Chemical Central team, though relatively small (between four and nine members), included members of diverse professional and ethnic backgrounds. Occasionally, that diversity led to communication difficulties. But more often, it sparked new insights and allowed the teams to come up with a wider variety of ways to accomplish their goals.

One team, for example, was responsible for devising a new way to make a major ingredient for one of the company's most important products. Because managers at Chemical Central had worked consciously to create a diverse team, it happened that one member had both a legal and a technical background. This person realized that the team might well be able to patent its core idea, giving the company a clear advantage in a new market. Because team members were mutually supportive, that member was willing and eager to work closely with the inventor. Together, these individuals helped the team navigate its way through the patent application process. The team was successful and had fun along the way.

Supervisory encouragement and organizational support were also widespread at Chemical Central. For instance, a member of one team received a company award as an outstanding scientist even though, along the way, he had experienced many failures as well as successes. At one point, after spending a great deal of time on one experiment, he told us, "All I came up with was a pot of junk." Still, the company did not punish or warehouse him because of a creative effort that had failed. Instead, he was publicly lauded for his consistently creative work.

Finally, Chemical Central's leaders did much to encourage teams to seek support from all units within their divisions and to encourage collaboration across all quarters. The general manager of the research unit himself set an example, offering both strategic and technical ideas whenever teams approached him for help. Indeed, the explicitly made cross-team support a priority among top scientists in the organization. As a result, such support was expected and recognized.

For example, one team was about to test a new formulation for one of the company's major products. Because the team was small, it had to rely on a materials-analysis group within the

organization to help conduct the tests. The analysis group not only helped out but also set aside generous blocks of time during the week before testing to help the team understand the nature and limits of the information the group would provide, when they would have it, and what they would need from the team to support them effectively. Members of the team were confident that they could rely on the materials-analysis group throughout the process, and the trials went well -- despite the usual technical difficulties encountered in such testing.

By contrast, consider what we observed at another company in our study, a consumer products company we'll call National Houseware Products. For years, National had been well known for its innovation. But recently, the company had been restructured to accommodate a major growth spurt, and many senior managers had been fired or transferred. National's work environment had undergone drastic changes. At the same time, new product successes and new business ideas seemed to be slowing to a trickle. Interestingly, the daily reports of the Team Events Study revealed that virtually all creativity killers were present.

Managers undermined autonomy by continually changing goals and interfering with processes. At one quarterly review meeting, for example, four priorities that had been defined by management at the previous quarterly review meeting were not even mentioned. In another instance, a product that had been identified as the team's number one project was suddenly dropped without explanation.

Resources were similarly mismanaged. For instance, management perennially put teams under severe and seemingly arbitrary time and resource constraints. At first, many team members were energized by the fire-fighting atmosphere. They threw themselves into their work and rallied. But after a few months, their verve had diminished, especially because the pressures had proved meaningless.

But perhaps National's managers damaged creativity most with their approach to evaluation. They were routinely critical of new suggestions. One employee told us that he was afraid to tell his managers about some radical ideas that he had developed to grow his area of the business. The employee was wildly enthusiastic about the potential for his ideas but ultimately didn't mention them to any of his bosses. He wondered why he should bother talking about new ideas when each one was studied for all its flaws instead of its potential. Through its actions, management had too often sent the message that any big ideas about how to change the status quo would be carefully scrutinized. Those individuals brave enough to suggest new ideas had to endure long-often nasty -- meetings, replete with suspicious questions.

In another example, when a team took a new competitive pricing program to the boss, it was told that a discussion of the idea would have to wait another month. One exasperated team member noted, "We analyze so long, we've lost the business before we've taken any action at all!"

Yet another National team had put in particularly long hours over a period of several weeks to create a radically improved version of a major product. The team succeeded in bringing out the product on time and in budget, and it garnered promising market response. But management acted as if everything were business as usual, providing no recognition or reward to the team. A couple of months later, when we visited the team to report the results of our study, we learned that the team leader had just accepted a job from a smaller competitor. He confided that although he felt that the opportunities for advancement and ultimate visibility may have been greater at National, he believed his work and his ideas would be valued more highly somewhere else.

And finally, the managers at National allowed political problems to fester. Consider the time a National team came up with a great idea to save money in manufacturing a new product -- which was especially urgent because a competitor had just come out with a similar product at a lower price. The plan was nixed. As a matter of "policy" -- a code word for long-held allegiances and rivalries within the company -- the manufacturing division wouldn't allow it. One team member commented, "If facts and figures instead of politics reigned supreme, this would be a no-brainer. There are no definable cost savings from running the products where they do, and there is no counterproposal on how to save the money another way. It's just 'No!' because this is the way they want it."

Great Rewards and Risks

The important lesson of the National and Chemical Central stories is that fostering creativity is in the hands of managers as they think about, design, and establish the work environment. Creativity often requires that managers radically change the ways in which they build and interact with work groups. In many respects, it calls for a conscious culture change. But it can be done, and the rewards can be great.

The risks of not doing so may be even greater. When creativity is killed, an organization loses a potent competitive weapon: new ideas. It can also lose the energy and commitment of its people. Indeed, in all my years of research into creativity, perhaps the most difficult part has been hearing people complain that they feel stifled, frustrated, and shut down by their organizations. As one team member at National told us, "By the time I get home every day, I feel physically, emotionally, and intellectually drained. Help!"

Even if organizations seemed trapped in organizational ecosystems that kill creativity -- as in the case of National Houseware Products -- it is still possible to effect widespread change. Consider a recent transformation at Procter & Gamble. Once a hotbed of creativity, P&G had in recent years seen the number of its product innovations decline significantly. In response, the company established Corporate New Ventures (CNV), a small crossfunctional team that embodies many of the creativity-enhancing practices described in this article.

In terms of challenge for instance, members of the CNV team were allowed to elect themselves. How better to make sure someone is intrinsically motivated for an assignment than to ask for volunteers? Building a team from volunteers, it should be noted, was a major departure from standard P&G procedures. Members of the CNV team also were given a clear, challenging strategic goal: to invent radical new products that would build the company's future. Again departing from typical P&G practices, the team was given enormous latitude around how, when, and where they approached their work.

The list of how CNV broke with P&G's creativity-killing practices is a long one. On nearly every creativity-support dimension in the KEYS work-environment survey, CNV scored higher than national norms and higher than the pre-CNV environment at P&G. But more important than the particulars is the question: Has the changed environment resulted in more creative work? Undeniably so, and the evidence is convincing. In the three years since its inception, CNV has handed off 11 projects to the business sectors for execution. And as of early 1998, those products were beginning to flow out of the pipeline. The first product, designed to provide portable heat for several hours' relief of minor pain, was already in test marketing. And six other products were slated to go to test market within a year. Not surprisingly, given CNV's success, P&G is beginning to expand both the size and the scope of its CNV venture.

Even if you believe that your organization fosters creativity, take a hard look for creativity killers. Some of them may be flourishing in a dark corner -- or even in the light. But rooting out creativity-killing behaviors isn't enough. You have to make a conscious effort to support creativity. The result can be a truly innovative company where creativity doesn't just survive but actually thrives.

RELATED ARTICLE: THE CREATIVITY MAZE

To understand the differences between extrinsic and intrinsic motivation, imagine a business problem as a maze.

One person might be motivated to make it through the maze as quickly and safely as possible in order to get a tangible reward, such as money -- the same way a mouse would rush through for a piece of cheese. This person would look for the simplest, most straightforward path and then take it. In fact, if he is in a real rush to get that reward, he might just take the most beaten path and solve the problem exactly as it has been solved before.

That approach, based on extrinsic motivation, will indeed get him out of the maze. But the solution that arises from the process is likely to be unimaginative. It won't provide new insights about the nature of the problem or reveal new ways of looking at it. The rote solution probably won't move the business forward.

Another person might have a different approach to the maze. She might actually find the process of wandering around the different paths -- the challenge and exploration itself -- fun and intriguing. No doubt, this journey will take longer and include mistakes, because any maze -- any truly complex problem -- has many more dead ends than exits. But when the intrinsically motivated person finally does find a way out of the maze -- a solution -- it very likely will be more interesting than the rote algorithm. It will be more creative.

There is abundant evidence of strong intrinsic motivation in the stories of widely recognized creative people. When asked what makes the difference between creative scientists and those who are less creative, the Nobel-prizewinning physicist Arthur Schawlow said, "The labor-of-love aspect is important. The most successful scientists often are not the most talented, but the ones who are just impelled by curiosity. They've got to know what the answer is." Albert Einstein talked about intrinsic motivation as "the enjoyment of seeing and searching." The novelist John Irving, in discussing the very long hours he put into his writing, said, "The unspoken factor is love. The reason I can work so hard at my writing is that it's not work for me." And Michael Jordan, perhaps the most creative basketball player ever, had a "love of the game" clause inserted into his contract; he insisted that he be free to play

pick-up basketball games any time he wished.

Creative people are rarely superstars like Michael Jordan. Indeed, most of the creative work done in the business world today gets done by people whose names will never be recorded in history books. They are people with expertise, good creative-thinking skills, and high levels of intrinsic motivation. And just as important, they work in organizations where managers consciously build environments that support these characteristics instead of destroying them.

RELATED ARTICLE: THE THREE COMPONENTS OF CREATIVITY

Within every individual, creativity is a function of three components: expertise, creative-thinking skills, and motivation. Can managers influence these components? The answer is an emphatic yes -- for better or for worse -- through workplace practices and conditions.

Expertise

Expertise is, in a word, knowledge-technical, procedural, and intellectual.

Creative-thinking skills

Creative-thinking skills determine how flexibly and imaginatively people approach problems. Do their solutions upend the status quo? Do they persevere through dry spells?

Motivation

Not all motivation is created equal. An inner passion to solve the problem at hand leads to solutions far more creative than do external rewards, such as money. This component -- called intrinsic motivation -- is the one that can be most immediately influenced by the work environment.

RELATED ARTICLE: SUGGESTED READINGS

Teresa M. Amabile, *Creativity in Context: Update to the Social Psychology of Creativity* (Boulder, Colo.: Westview Press, 1996).

Teresa M. Amabile, Robert Burnside, and Stanley S. Gyskiewicz, *User's Manual for KEYS: Assessing the Climate for Creativity* (Greensboro, N.C.: Center for Creative Leadership, 1998).

Rosabeth Moss Kanter, *Frontiers of Management* (Boston, Mass.: Harvard Business School Press, 1997).

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