The Management Report

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[STRATEGY]

Combating Complexity

When a company's systems are complex, they can invite dangerous vulnerabilities. But there are strategies that can help mitigate the risk.

NEXT PRACTICES

In March 2000, a fire struck a semiconductor plant in New Mexico, leaving Swedish telecom giant Ericsson Inc. short the millions of chips it needed to launch a new mobile phone. Ericsson, running a complex global supply chain, failed to notice that the New Mexico plant was a bottleneck in the system. And as a result, it was ultimately driven from the market while its rival Nokia Corp. flourished.

Ericsson is not the only company to suffer a catastrophe due, in part, to the complexity of its own systems. In February 1995, the actions of a single trader in Singapore caused Barings Bank, Britain's oldest merchant bank (it had financed the Napoleonic wars, the Louisiana Purchase and the Erie Canal) to become bankrupt.

Nick Leeson, soon after becoming general manager of Barings Securities Singapore, created a secret account to hide the losses he sustained while engaging in unauthorized futures and options trading. Because of the complexity of the Barings systems, Leeson was able to fool others into thinking that he was making money when he was actually losing millions. But after an earthquake in Japan rocked the Asian financial markets, Leeson's accumulated losses – some $1.4 billion – became too enormous to hide, eventually leading to Barings' collapse.

When managing risk, companies generally focus on threats outside the organization: competitors, market shifts or geopolitical events. But they are less adept at detecting the internal vulnerabilities that make breakdowns not just likely but, in many cases, inevitable.

And, especially as organizations and systems grow more complex, vulnerabilities are even more likely to creep in. This raises the question: How can businesses uncover and forestall the fatal flaws lurking within their organizations?

The best bet for uncovering weaknesses that are already embedded in a complex system is to test them with "attacks"; by having hackers try to break into a computer network, for example. But the difficulty lies in designing an attack that really tests the system – as opposed to merely confirming its designer's assumptions.

What is needed for systems testing is an open mind – or, even better, many open minds. That's where the concept of open source comes in. Open source, as the term is used in developing software for instance, means that something is developed through the collective, in the public arena. A group of people share responsibility for creating, testing and fixing something – anyone at anytime can participate. Wikipedia, the online encyclopedia created by Internet users around the world, is an example of the open-source philosophy at work.

As Eric Raymond, a noted advocate of open-source software, once wrote, "Given enough eyeballs, all bugs are shallow." With open-source software, developers regularly challenge each other's code, finding bugs, which leads to fixes, then more bugs, more fixes and so on. That process of diversity-based testing can involve thousands of developers living around the world.

Sometimes it's hard to get diverse perspectives, however. Often implicit group dynamics tend to suppress a wide range of ideas. To avoid such pitfalls, organizations should try to let diversity express itself. Workers in the aviation industry, for instance, can file anonymous reports with the U.S. Aviation Safety Reporting System about incidents that could pose a threat to safety. The information cannot be used by the Federal Aviation Administration's enforcement authorities but is available to more than 150,000 aviation professionals and enthusiasts.

Or, other cutting-edge companies are using something called artificial information markets, in which participants buy and sell stocks or futures in certain events. Employees might be asked to assess a new innovation's potential to succeed or a popular product's ability to sustain customer interest. Often these markets can more reliably assess such issues than experts can – much in the same way a crowd's average guess for the number of jellybeans in a bowl will be more accurate than any one person's estimate.

This article is adapted from "Understanding and Managing Complexity Risk," by Eric Bonabeau, which appeared in the Summer 2007 issue of MIT Sloan Management Review. *The complete article is available at http://sloanreview.mit.edu/smr/.*

[LEADERSHIP]

Leading in Pairs

Under the right conditions, two corporate heads can be better than one.

OPINION

When Google filed its initial public offering in 2004, the company's cofounders included an open letter that discussed the organization's principles. It began "Google is not a conventional company. We do not intend to become one."

Indeed. The cofounders, Larry Page and Sergey Brin, first met as graduate students at Stanford University and then began the company in 1998. Just six years later, the two men were billionaires.

Google has revolutionized the way people use Internet search engines, and today the remarkably successful venture employees over 10,000 people worldwide. This year, the company's market value is at just over $150 billion.

Brin and Page remain co-leaders of the company, sharing the title president – Page is president of Products and Brin is president of Technology. In 2001, they hired Eric Schmidt to be CEO and together the three make decisions about the company's direction.

Can this work? Can leadership be shared? Google's success would indicate that it can. As Schmidt said in a May 2004 BusinessWeek article, "We try to run as a group, because partnerships make better decisions."

Shared leadership, in fact, is less rare than you might think. The popular clothing company Guess?, Inc. of Los Angeles was founded by four brothers. At different points entertainment technology company, IMAX Corp., and consulting firm, Sapient Corp., have both had CEOs share power.

Similarly, Merrill Lynch and Co. Inc was run jointly for decades. And Goldman Sachs Group Inc. has long operated not only with co-CEOs but also with co-department heads. It recently appointed co-presidents and co-chief operating officers as well.

Nor are these power-sharing arrangements exclusive to large firms. José Luis Alvarez, of the Instituto de Empresa Business School in Madrid, Spain, and Silviya Svejenova and Luis Vives of ESADE Business School, in Barcelona, Spain, studied over 100 examples of power sharing, both historical and contemporary, and compared cases of single leadership with joint leadership. They found that small and medium-sized enterprises, as well new ventures and family firms, also use these arrangements. In 2002, the MassMutual Financial Group/Raymond Institute American Family Business Survey found that almost 13% of the companies surveyed had two or more co-CEOs; interestingly, more than 35% said that they would consider co-CEOs in their companies' next generation.

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Co-founders of businesses have often met and "clicked" at places like MIT, Harvard, Stanford and Cambridge University in England, since people of like minds and aspirations end up in research labs or universities together. Partnerships can also emerge from families – brothers Harvey and Robert Weinstein shared the top job at their former venture Miramax and now co-head Weinstein Co. LLC – and also from previous work relationships. The "two Johns" at Goldman Sachs – John Weinberg and John Whitehead – occupied neighboring offices, worked closely together and even shared lunch breaks before becoming company co-chiefs.

One of the reasons co-heads can work so well is because they offer their companies different leadership styles and talents. During the Whitehead/Weinberg era at Goldman Sachs, for instance, Whitehead was in charge of the long-term direction and budgets, and Weinberg focused on clients and new-business development. Weinberg was the soul of the company and the continuation of its legacy, being the son of Sidney Weinberg, the man in charge at the time of the company's founding. Whitehead had more business experience and enjoyed a higher profile outside the firm. He was its strategist and visionary.

There are many potential scenarios: One co-head could be task-oriented, while the other is a people person. One could focus on innovation, while the other controls existing operations. Or, as often occurs in these shared arrangements, one leader attends to internal operations while the other focuses on relationships with external constituents.

As John Whitehead said: "Our talents fit well with each other. John could do things I couldn't do as well, and I could do things that John couldn't do as well, and so together we were an excellent team."

This article is adapted from "Leading in Pairs," by José Luis Alvarez, Silviya Svejenova and Luis Vives, which appeared in the Summer 2007 issue of MIT Sloan Management Review. *The complete article is available at http://sloanreview.mit.edu/smr/.*

[INNOVATION]

Measuring the Culture of Innovation

Research shows the most important factor driving innovation is company culture

BRIEFING

On February 11, 2007, writing for The New York Times about the innovation that flourishes in Silicon Valley, G. Pascal Zachary headlined his article "When It Comes to Innovation, Geography Is Destiny." But business school professors, Tellis, Prabhu and Chandy, disagree: It's not geography, they counter, but corporate culture that defines innovative potential.

Their February 2007 working paper, "Innovation in Companies Across Nations: New Metrics and Drivers For Radical Innovation," provides a cross-cultural look at the factors driving innovation. The authors looked at 759 public companies from 17 of the world's largest economies and most populous countries, which included developed nations such as the United States, Germany and Japan, as well as developing nations such as China and India.

Often, because measuring innovation is tricky, researchers tend to focus on what goes into the laboratory – the number of scientists, the amount spent on research and development – and the intermediary outcomes, like patents.

But here the authors moved in a different direction. Marketing professors Gerard J. Tellis of the University of Southern California, Jaideep C. Prabhu of the Imperial College London and Rajesh K. Chandy of the University of Minnesota define "radical" innovation as commercializing new products. And they define "new" by two criteria: The product uses a substantially different technology and benefits customers much more than other products on the market.

To get at this aspect of innovation, the professors surveyed vice presidents for innovation or technology, asking them how much they felt their companies' products differed from the competition's and if they believed their companies lagged behind others in introducing products based on new technologies. They combined the survey data with data on company patenting and national data covering other factors driving innovation.

It turns out that the proxies other researchers have traditionally used – patenting, for example – do not strongly stimulate radical innovation. Nor do other factors that researchers have posited at a national level, such as religion and geography.

Not even a nation's intellectual property protections are that important for companies' innovations. "If you think about it, India and China are very low on intellectual property, but they are highly innovative right now," Tellis says. "China is coming out with new cars that are half the price of foreign brands and are comparable, at least in looks, if not in performance and long-term reliability. And India is producing drugs, right now generics, by employing an entirely new process which involves innovation."

Rather, the most important factor driving innovation is a company's internal culture – specifically, its orientation toward future markets, its willingness to cannibalize its products and its tolerance for risk.

Because the authors define radical innovation as a product that must go to market, extending the logic would make one expect that these new products should lead to financial gains, which the study also confirmed. "In general, what we found," says Tellis, "is that the more radical innovation you have, the higher is your market-to-book ratio."

This article is adapted from "Measuring the Culture of Innovation," by Larry Yu, which appeared in the Summer 2007 issue of MIT Sloan Management Review. *The complete article is available at http://sloanreview.mit.edu/smr/.*

[SELLING]

Promoting Your Way to the Top

For sales promotions to work, they must defy or delay imitation.

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In the summer of 2005, General Motors Corp. ran a "you pay what we pay" price promotion – customers got the same prices as employees. Just five weeks later, two of GM's major U.S. rivals imitated the tactic. This lead to dismal results. Analysts estimate that the promotion cost GM an average of more than $5,000 per vehicle through September 30 – when it terminated the deal – which contributed to a $4 billion loss in North American operations during 2005's first nine months. GM's stock value declined by 50% that year.

CASE STUDY

Easy-to-copy promotions, as GM's outcome illustrates, can have negative consequences. In fact, GM's situation is hardly unique. One analysis of 20 years worth of sales-promotions research reveals that most promotions don't pay off. Even more optimistic studies find that no more than 60% earn back their costs.

But if promotions defy or delay imitation – either because of the their unique associations with their sponsors or because of some hard-to-replicate resource – they will yield large benefits for already competitive companies, says Betsy Gelb, a business professor at the University of Houston, and University of Houston doctoral candidates Demetra Andrews and Son K. Lam.

For example, also in 2005, both Pontiac and Cadillac (GM divisions) successfully promoted new cars. On an episode of Donald Trump's "The Apprentice," Pontiac had two teams compete to produce brochures for the 2006 Pontiac Solstice, a new model compact convertible. Viewers were offered an early chance to purchase the Solstice. That, along with web promotions, helped Pontiac presell 7,116 cars – which made it the market share leader among compact convertibles.

Cadillac sponsored a Super Bowl post-game show to showcase its V-Series cars' abilities to hit 60 miles per hour in less than five seconds. The company created a special Web site promoting a "Five Second Film Competition," then invited site visitors to shoot and upload a five-second film on any topic. More than 2.5 million people visited the page, 2,600 of whom submitted films. In the four months following, sales of the Cadillac V-Series jumped by 25%.

These were promotions that didn't involve discounts and that no competitor even tried to imitate, given their unique ties to the brand images Pontiac and Cadillac created. But even if promotions just manage to delay imitation, they still give companies an all-important period of exclusivity which is critical in avoiding losses.

Also critical is getting people to buy quickly, which means promotions need to be simple to understand, informative and emotionally appealing. Of course, maximizing the "monopoly window" – the time between consumers' response and competitors' reaction – involves trade-offs: Creating a simple message makes it easier for people to understand the promotion but also easier for competitors to recreate. Constructing a less accessible message will thwart competitors from copying it as quickly but also means fewer people will understand it.

One way to get around these conflicting priorities: Employ scarce resources.

Consider how in 2004 the Atlanta-based, retail chain The Home Depot Inc. increased its store and Web site traffic. It employed 450 athletes training for the Olympic Games and the Paralympic Games. By offering a flexible work week with full-time pay and benefits to the athletes, who "donned orange aprons and worked in aisles of Home Depot stores," the chain cemented an association with the Olympic Games that differentiated it from other Olympic sponsors and certainly from its retail competitors. The result? The publicity was so great that every American heard or saw Home Depot's story twice; plus, there were 40,000 registrations at its Web site.

This article is adapted from "A Strategic Perspective on Sales Promotions," by Betsy Gelb, Demetra Andrews and Son K. Lam which appeared online as a featured Summer 2007 MIT Sloan Management Review *article. The complete article is available at http://sloanreview.mit.edu/smr/.*

[INTERVIEW]

Q&A: Making the Sale

Betsy Gelb, a professor in the department of marketing and entrepreneurship at the Bauer College of Business at the University of Houston, took the time to speak to us about creating successful sales promotions.

What can a good promotion achieve?

Primarily it can get people to notice, like and associate some characteristic with a branded product. In the 2007 collection of Reggie winners [the Promotion Marketing Association's awards to the year's best promotions], there are two excellent sales promotions where companies did the same thing: They created a place to go for people who are potentially or actually their customers. And they pampered them. One was American Express Co. It put a relaxation lounge in a shopping mall. So, think about it: It's the holiday, you're tired, you've been shopping and you pull out your American Express card and go into this lounge and relax and feel like you're special.

On the other side of the spectrum, Procter & Gamble Co. paid for the installation of free, public "pop-up" restrooms in New York City and put Charmin toilet paper in them. The company paid for you to be comfortable on the streets of New York. How could you not notice that?

What's a promotion you've seen recently that you didn't think worked?

Anything that says 'You have to act fast because this offer will expire in "fill in the blank" (October 1st, June 1st , or whenever). That is not a reason to buy anything.

Why do companies do that, then?

Because they see other people doing it.

It is a characteristic of organizations that if somebody knocks down an idea, then somebody else will say, 'well, do you have a better idea?' So if you don't have a better idea, then you'll be very hesitant to say that you don't think it will work.

For a sales promotion to be effective, it needs to preclude or at least delay imitation. So why do companies continue to use promotions that are easy to imitate?

I don't think they think about them that way. It is so threatening to think all the time about your competition, given that your competition, among other things, is trying to make your life very unprofitable. People cope with that threat by acting as though the competitive environment is not nearly as important as it is.

What other traits should a success promotion have?

Difficulty of imitation is high on my list, and it comes about either because we tie up some scarce resource or original concept first and/or because this idea becomes associated with the brand. If you go back to Charmin putting up the equivalent of long-term porta potties, they got lots of publicity. And if you were a rival brand and put some up, most people would just associate them with Charmin.

People will buy products when they're being promoted often because they're on sale. How else can companies motivate people to buy their products?

You take away the ability to compare by giving them something extra. Think about a 12-ounce can of a soft drink. You assume that people can compare the cost of soda across brands. But your company also makes corn chips. So you attach to your soda a coupon for corn chips. Now it's worth more. How much more? I'm not sure, but the customer is getting something extra. So whether it's a sweepstakes, or a two-for-one or an additional product the customer gets a coupon for, you change the rules of the game from the consumer's point of view. Give them something extra, something better. What makes it interesting is to figure out what will be hard to imitate. Then you'll be way ahead. That's the type of thinking that will help a company get an edge.

[GLOBAL BUSINESS]

Gaining Executive Attention in the Global Company

How can subsidiaries get headquarters to notice them?

So many companies today have a global presence. Shell Oil Company of Houston, Texas, has operations in more than 140 countries. The Coca-Cola Company of Atlanta, Georgia, sells its products in more than 200. Nestlé S.A. of Switzerland boasts of factories or operations in almost every country in the world. It's an immense challenge for the executives running these companies to keep abreast of events in all these markets. The problem is not a lack of information: Executives are deluged with monthly reports and market analyses for the countries in which they operate. The problem is having the time and energy to process the information.

TRENDS

Julian Birkinshaw of London Business School, Cyril Bouquet of the Schulich School of Business in Toronto and Tina C. Ambos of Vienna University have researched executive attention in global companies for the past five years, interviewing 50 executives at 30 corporations. They found that, despite best intentions, corporate executives tend to prioritize a handful of markets at the expense of others.

It's often the case that executives focus on their home market. Or they focus on hot markets – areas their competitors have already identified. So some countries, most recently China and India, attract a disproportionate amount of attention.

These approaches are defensible, but if executives only watch safe markets they'll miss other opportunities. Consider, for example, the case of Dun & Bradstreet Corp.'s Australian subsidiary, which the U.S. head office ignored for years because Australia was not a "strategic" market. Frustrated, the subsidiary's CEO persuaded the parent company to sell the business to a local private equity company. Within three years, it had doubled in size and increased earnings tenfold. As a subsidiary company, its access to investment capital had been hamstrung by how corporate executives viewed Australia; as a standalone company, it could invest in whatever opportunities offered a promising investment return.

The question, of course, is how executives can find these hidden gems. But, conversely, another question arises: How can a subsidiary not on the corporate radar screen attract more attention?

In their research Birkinshaw, Bouquet and Ambos found that subsidiaries in "forgotten markets" often try to gain visibility in two essential ways. First, broadly speaking, they take initiatives. These subsidiaries select projects or ventures that will help them grow – perhaps by developing new products, penetrating new markets or simply generating new ideas. For example, when Fred Kindle, the CEO of ABB Ltd. of Zurich, Switzerland, visited his company's Czech subsidiary, he learned that its managers had found an innovative way of networking the company's computers at night (when they were not used), allowing the company to run complex research-and-development algorithms more quickly. In turn, the parent company gave the Czech subsidiary more recognition and support.

However, sometimes when subsidiary managers pursue initiatives on their own, the parent company can view them as attempts at empire building. Or the initiatives might be competing with other subsidiaries' activities.

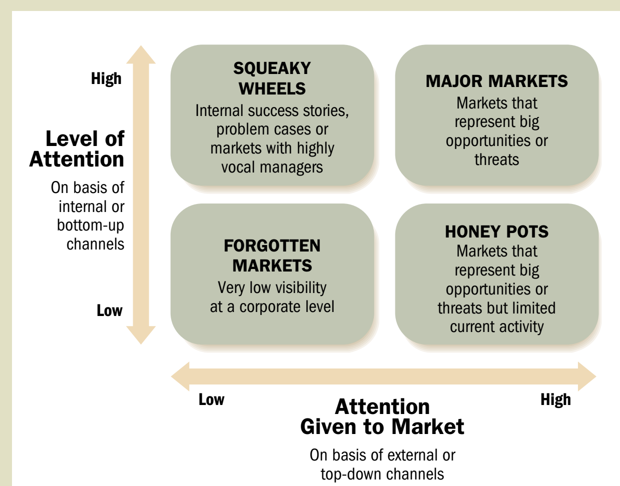
And this leads to the second way managers seek to increase visibility: They build their subsidiaries' profiles. The difference between this and taking initiatives is one of context. If in taking initiatives subsidiary managers are working locally, when building profiles they are focused on the broader corporate network. Profile building, the authors found, more effectively captured executives' attention – either on its own or in combination with taking initiatives.

The authors found that successful profile builders focus on three types of activities. First, they build a stellar track record, consistently delivering results above the parent company's expectations. They also support corporate objectives, which may sound like common sense but can call for some careful juggling: Subsidiary managers must balance local initiatives with commitments to the corporate cause. Many of the subsidiary managers interviewed described how they "push back" on some corporate requests. And finally, they work as internal brokers, spending time building relationships within and beyond their corporate network and letting others know what the unit does, how well it does it and what the unit might contribute in the future.

This article is adapted from "Managing Executive Attention in the Global Company," by Julian Birkinshaw, Cyril Bouquet and Tina C. Ambos, which appeared in the Summer 2007 issue of MIT Sloan Management Review. *The complete article is available at http://sloanreview.mit.edu/smr/.*

[DATA POINT]

Attracting Attention in the Global Company



Subsidiaries can be categorized on two essential dimensions. The first is the amount of attention they gain through external or top-down channels – industry reports, the media and competitor intelligence. The second is the amount of attention they gain through internal or bottom-up channels – standard reporting processes and individual lobbying.

From these two dimensions come four distinct markets. Large global companies often regard countries such as the United States and Japan as "major markets." They attract a lot of attention through both internal and external channels. China and India also receive lots of media attention, but the business opportunities there may not live up to the buzz. Hence, they are considered "honey pots." In many companies, Canada and Australia receive attention based on relationships. Those markets are "squeaky wheels," because they represent established operations whose achievements are well known to headquarters executives, even if the markets themselves don't justify the emphasis. The last group consists of "forgotten markets," because they have difficulty getting onto the corporate radar screen.

Note that the framework says nothing about whether the subsidiary is performing well or badly, only the level of management attention that the subsidiary receives. Some squeaky wheels are troubled operations that need to be turned around. Others might be rising stars, and some of the forgotten markets may actually be hidden gems.

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