The New Science of Change

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09/10/2006 11:50:29

Nothing is more frustrating than trying to get people to alter the way they do things. New research reveals why it's so hard and suggests strategies to make it easier

Kevin Sparks has been trying to get his staff to change the way it monitors and supports the data centre for the past year.

But he hasn't been getting anywhere.

Not that he's getting resistance. At least not overtly. His staffers at Blue Cross and Blue Shield of Kansas City agree that installing automated monitoring software, along with a centralized control room and a set of standard processes for responding to problems, would be more efficient than the way they deal with things now - mostly through ad hoc heroism.

"Logic always prevails and everyone will agree - at the intellectual level - that we need to change things," says Sparks, who is vice president and CIO. But then he finds himself surrounded by empty chairs at meetings while the people who should be sitting there are off fighting the latest fire.

"I tell them I need them at the meetings and if we changed things they'd have the time to be there. But things always break down when we talk about taking monitoring out of their hands [through automation]," Sparks says.

To help his staff accept the new processes, Sparks says he's taken retrenchments off the table, even though the proposed automation and process efficiencies could reduce the need for bodies. The change is part of a larger effort to implement the IT Infrastructure Library (ITIL) process framework to improve overall productivity (for more on ITIL, see "ITIL Power", CIO October 2005) "I don't want fewer people; I want the ones I have to do more things," he says, sighing with frustration.

In other words, Sparks's staff doesn't seem to have any logical reason for resisting the changes. But before you dismiss them as a bunch of inflexible, fearful losers, know this:

They are you and you are they.

A Universal Truth

Maybe your resistance to change manifests itself in a different way or in a different setting - a refusal to throw away that old slide rule, for example, or to look while the nurse draws your blood, or to dance at weddings. We all refuse to change our ways for reasons that are often hard to articulate.

Until, that is, you begin looking at it from a scientific perspective. In the past few years, improvements in brain analysis technology have allowed researchers to track the energy of a thought coursing through the brain in much the same way that they can track blood flowing through the circulatory system. Watching different areas of the brain light up in response to specific thoughts has brought a new understanding to the corporeal mechanics of psychology in general and to our response to change in particular.

These advances are bringing a much-needed hard foundation of science to a leadership challenge that to CIOs has long seemed hopelessly soft and poorly defined: change management. Pictures don't (usually) lie, and the pictures of the brain show that our responses to change are predictable and universal. From a neurological perspective, we all respond to change in the same way: We try to avoid it. But understanding the brain's chemistry and mechanics has led to insights that can help CIOs ameliorate the pain of change and improve people's abilities to adapt to new ways of doing things.

Why Change Is Painful

Change hurts. Not the boo-hoo, woe-is-me kind of hurt that executives tend to dismiss as an affliction of the weak and sentimental, but actual physical and psychological discomfort. And the brain pictures prove it.

Change lights up an area of the brain, the prefrontal cortex, which is like RAM memory in a PC. The prefrontal cortex is fast and agile, able to hold multiple threads of logic at once to enable quick calculations. But like RAM, the prefrontal cortex's capacity is finite - it can deal comfortably with only a handful of concepts before bumping up against limits. That bump generates a palpable sense of discomfort and produces fatigue and even anger. That's because the prefrontal cortex is tightly linked to the primitive emotional centre of the brain, the amygdala, which controls our fight-or-flight response.

The prefrontal cortex crashes easily because it burns lots of fuel of the high-octane variety: glucose, or blood sugar, which is metabolically expensive for the body to produce.

Given the high energy cost of running the prefrontal cortex, the brain prefers to run off its hard drive, known as the basal ganglia, which has a much larger storage capacity and sips, not gulps, fuel. This is the part of the brain that stores the hardwired memories and habits that dominate our daily lives.

"Most of the time the basal ganglia are more or less running the show," says Jeffrey M Schwartz, research psychiatrist at the School of Medicine at the University of California at Los Angeles. "It controls habit-based behaviour that we don't have to think about doing." Like, for instance, many aspects of our jobs.

The interplay between the basal ganglia and the prefrontal cortex helps explain the resistance of Sparks's staff to his proposed changes. Even though fire fighting takes more time and effort, the overall approach is familiar, and the outcome (one way or another, the problem always gets fixed) is comfortingly predictable. Doing the fire fighting the way Sparks's staff has always done it draws upon the basal ganglia and burns less fuel than making a change and involving the prefrontal cortex.

But resistance to change is not ineluctable. The prefrontal cortex has its limitations, but it is also capable of insight and self-control. It's what makes us human - the ability to be aware of our habitual impulses and do something about them.

"The prefrontal cortex is extremely influential in our behaviour, but it does not have to be completely determinative," says Schwartz. "We can make decisions about how much we want to be influenced by our animal biology."

Carrot and Stick: The Flaw

Unfortunately, traditional change management tactics are based more in animal training than in human psychology. Leaders promise bonuses and promotions to those who go along with the change (the carrot) and punish those who

don't with less important work and the potential loss of their jobs (the stick).

Though no conclusive research has yet been done, surveys have shown that people's primary motivation in the workplace is neither money nor advancement but rather a personal interest in their jobs, a good environment and fulfilling relationships with colleagues. The effects of bonuses, promotions and reprimands, though real and measurable, are all temporary.

"The carrot-and-stick approach works at the system-wide level - offering cash bonuses to the sales department to increase the number of customers in Latin America will get you more customers there, for example - but at a personal level it doesn't work," says David Rock, founder and CEO of Results Coaching Systems, a consultancy. "Our personal motivations are too complex, and you can only offer so many raises."

The traditional command-and-control style of management doesn't lead to permanent changes in behaviour either. Ordering people to change and then telling them how to do it fires the prefrontal cortex's hair-trigger connection to the amygdala. "The more you try to convince people that you're right and they're wrong, the more they push back," says Rock. Even well-meaning advice quickly raises warning flags in the prefrontal cortex that it is soon to become overloaded and exhausted. And just as quickly it begins to defend itself. "Our brains are so complex that it's rare for us to be able to see any situation in exactly the same way," says Rock. "So when we get advice from people, we're always finding ways that the advice doesn't match up with our own experience or expectations."

Not Your Change; Their Change

The way to get past the prefrontal cortex's defences is to help people come to their own resolution regarding the concepts causing their prefrontal cortex to bristle. These moments of resolution or insight - call them epiphanies - appear to be as soothing to the prefrontal cortex as the unfamiliar is threatening.

Just look at a person's face during one of these moments and you can see that something positive is happening - though scientists aren't exactly sure what it is yet. "There isn't conclusive evidence, [but] I think it's reasonable to conclude that the brain has some kind of reward mechanism related to insight," says Schwartz.

Brain scans show a tremendous amount of activity during moments of insight, with the brain busy building many new and complex connections. The insights don't have to be life-changing to have a pleasurable effect, either. "The simple insight of figuring out the answer to 12 across in the crossword puzzle is enough to give a little feeling of positive reinforcement," says Schwartz.

But because our brains are so complex and so individual, generating epiphanies in many people in a systematic way is difficult. Patience is critical, says Rock. "You have to paint a broad picture of change and resist the urge to fill in all the gaps for people," he says. "They have to fill them in on their own. If you get too detailed, it prevents people from making the connections on their own."

Leaving holes in any plan is especially hard for CIOs who tend to be ambitious and process-oriented - meaning they have thought out all the details involved in a strategy or systems change and believe they know all the steps required to get there. And, in general, they're bursting with the need to tell everyone how, exactly, to do it.

"When I put out change proposals, it's obvious to me why we should be changing, so when people resist I tend to get more aggressive in trying to convince them," says Matt Miszewski, CIO of the state of Wisconsin. "But we lose people in that situation. The more we try to explain things, the more dug in they get."

Doing the thinking for employees takes their brains out of the action. And when disengaged, they will not invest the energy necessary to make the new (and, to the brain, pleasurable) connections required to change behaviours. Worse, in that situation, they may instead focus their energy on the negative, fearful signals broadcast by the amygdala - deepening and reinforcing their resistance to change.

"Wherever we focus our brain's attention, that's where we're making and reinforcing connections," says Schwartz. "If our attention is focused on negative things, those are the connections that will be made and strengthened."

How Questions Provide Answers: - A Case Studied

In trying to focus people's attention on personal insight and changing their behaviour, Rock uses the same technique that psychoanalysts have used since the profession began: He asks questions.

"When you ask someone questions, you are getting them to focus on an idea," he says. "When you pay more attention to something, you make more connections in the brain."

Rock also says that asking questions gets people to voice their ideas. And according to the brain scans, voicing ideas creates more activity and connectivity in the brain than hearing an idea spoken by someone else. "The best way to get people to change is to lay out the objective in basic terms and then ask them how they would go about getting there," Rock says.

Richard Toole approached the question of offshoring - one of the most emotional change issues in IT today - in just this way. Toole, who is CIO for PharMerica, a pharmacy services company, says that when he joined the company two years ago he had a mandate to reduce costs and improve the productivity of his application development staff. Outsourcing and offshoring were obvious solutions, but rather than mandate them from the beginning, he had a series of meetings with his staff in which he outlined the business goals and discussed options for achieving them. "We asked them what suggestions they had," he recalls. "Every one of them came up with outsourcing as some component of their plan -even some who were opposed to it. You could say we were being manipulative, but we weren't because even though the cost issue was pushing us towards outsourcing, it wasn't a final decision at that point." Toole says that in the end most of the staff was more accepting of the decision to offshore some of PharMerica's development because they had had input into the decision from the beginning.

The Joy of Repetition

Once people have had that initial insight or epiphany that change is necessary, they need to repeat the experience in order to reinforce it and to experience the potential pleasure that can be derived from it. The complex brain connections that are formed during the epiphany phase need to be supported to begin the process of hard-wiring the basal ganglia. Indeed, when Wisconsin's Miszewski has been successful in getting agencies to accept change - server consolidation and centralization, for example - it has been because of highly repetitive lobbying. "That's why politicians repeat the same message 10 times," he explains.

"The epiphany is the catalyst and stimulus, but it's not the whole deal," says Michael Wakefield, senior enterprise associate at the Centre for Creative Leadership, a consultancy. "You have pathways in place, and they're simply too strong to be changed in a single moment. You need to be able to integrate it into the psychological behaviour for it to become part of a new pattern." Rock says reminding people of their insights and continually asking them about the actions they decided to take as a result will help the process along. If they haven't taken any action, ask them when they plan to.

It's also important to know that there are always going to be people who are simply incapable of changing their behaviour in a particular situation for reasons that are too complex and personal for CIOs to resolve. CIOs are not psychotherapists, and they don't need to be. Change experts and CIOs offer a remarkably consistent picture of the types of reaction to change and the percentages of people who fall into each category. Roughly 20 percent to 30 percent of employees are change gluttons - often ambitious, they see change as a path to happiness and success. Another 20 percent to 30 percent cannot view change as anything other than a threat to their jobs (and they may be right) and will resist at all costs. Finally, about 50 percent to 70 percent are sceptics - they may see some logic in the case for change but aren't convinced it will benefit them personally. "It's the 50 to 70 percent you need to focus on," says Rock.

Not Your Motivation, Theirs

One of the biggest mistakes leaders like CIOs make in trying to win over the sceptical middle is assuming that everyone is motivated by ambition - as many CIOs are. But many people, especially IT professionals, are motivated as much or more by the work they do (the craft of software development, for example) as they are by the opportunity to move up in the hierarchy. "There are a lot of people who don't want to be king or queen," says Wakefield. "That's difficult for people to reveal because they fear their bosses will start to question their courage and commitment." If these people don't see an opportunity to maintain their allegiance to the work they love as part of a change, they won't see the benefit of going along. They will remain sceptical or, worse, move into the camp of active resisters.

One of the best ways to bring the sceptics around is through learning. At the New York State Workers' Compensation Board, a change readiness survey of employees at the beginning of an effort to shift compensation cases from paper folders to electronic files found that employees' number-one demand was for training. "They wanted reassurance that we weren't going to ask them to do something new without giving them the support they needed to do it," says Nancy Mulholland, who is deputy executive director and CIO of the board.

Information sessions, Q&As, training courses and coaching all provide ways for people to get those epiphanies without feeling as if something is being forced on them. "Learning is the antidote to change resistance," says Wakefield. "Learning lets you reframe the change from being something bad for you to something that can have value for you."

The learning environment has to be one in which employees will not be reprimanded or embarrassed for revealing their discomfort with the new way of doing things. "You have to give people the sense that feeling uncomfortable is a normal part of change and address their concerns about losing face because of their lack of confidence and competence," says Wakefield. One of the ways to do that is to put people together who share a similar status in the organization and are facing a similar change so they can see that they're not alone - a species of corporate support group. When groups are too threatening, individual coaching can help.

The Hard Edge of the Soft Stuff

Change management is time-consuming and hard to quantify for process-oriented CIOs. But avoiding the challenge leads to failure. "Anybody can stick $2000 in someone's face to get them to finish a job, but it's the people who can inspire others to follow them that are the most successful in the long run," says PharMerica's Toole. "The soft stuff is important."

But inspiring others to change isn't a matter of charisma or charm, say the experts. It's finding a way to spark those epiphanies.

Sparks's latest tactic for engaging his staff's prefrontal cortexes was to bring in an outside consultant to discuss the ITIL

program and to field concerns.

"We had an outstanding instructor, and she was able to address many of the questions people had," recalls Sparks. "I could begin to see the lights come on in some of the [sceptics]. After a long meeting, one of my people stood up and said: 'You know, we should have started working on this [automated monitoring] six months ago'."

SIDEBAR:Change Management Rules

Though we've heard these nostrums over and over, scientific research proves that they work

1.Stay on message. The brain needs repetition to move a concept from the prefrontal cortex, which handles unfamiliar concepts and complex decisions, to the basal ganglia, where habits are stored. For new concepts to become hardwired, those pathways have to be reinforced continually.

2.Keep it simple. The prefrontal cortex can entertain only a handful of concepts at a time. Therefore, complex projects need to be refined to one or two goals that businesspeople can easily understand so that their prefrontal cortexes do not become overwhelmed, causing fatigue and the psychological and physical distress that leads to anger.

3.Expect fear. When the decision-making part of the brain (the prefrontal cortex) becomes overwhelmed, it sends out signals to the primitive area of the brain (the amygdala) that controls the fight-or-flight response. This generates feelings of fear, anger and sadness. Budget for these emotions in your staff.

4.Let them own the change. There is one aspect of change that scientists believe generates pleasurable sensations: the epiphany, that moment of personal insight when people feel they personally have come to terms with an issue.

5.Lead by not leading. The prefrontal cortex is always on high alert, looking for signals that all is not right. Ordering people around, painting pictures of the world that don't line up with people's own realities or goals, or even offering friendly, well-meaning advice can produce distracting, fearful sensations.

6.Show, don't tell. Learning what to do elicits pleasurable sensations; being told what to do causes the brain to produce fearful, angry messages.

7.Provide experience. People resist change because they can't imagine what it will be like to fill a role different from the one they know. Allowing people to experience epiphanies in a new role in a controlled, safe way - such as putting an IT person to work in a retail bank before starting a project there - can help everyone adapt.

8.Focus on the big picture. Even though our brains all share some basic, high-level wiring, our life experiences make each of us unique; therefore, there is no way to paint a detailed picture of a complex project or change that will look the same to everyone.

9.Seek compliance before commitment. Neither rewards nor punishments lead to the personal epiphanies that people need to experience in order to change. Clarify what people need to do, then step aside, allowing them to discover the benefits of the new processes for themselves.

10.Make it a personally relevant story. Well-told stories are powerful. But they need to speak to the personal interests of the people affected by the change in order to appeal to the prefrontal cortex, placate the amygdala and spark

the epiphanies that allow people to change.