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Futurist James Canton foresees the CIO motivating the rest of the organization, including the CEO and the board, to change.

Is it possible to know the future? James Canton thinks it is, and says if CIOs want to be successful, they'd better develop skills to figure out what's going to happen next. Canton, CEO and chairman of the Institute for Global Futures, a San Francisco consultancy that helps companies forecast trends, is the author of *The Extreme Future: The Top Trends That Will Reshape the World for the Next 5, 10 and 20 Years* (Dutton, 2006).

, Canton argues that the pace of change is quickening and leading to new challenges—and opportunities—for business. And, according to Canton, it's the CIO who should be at the forefront of these changes, fusing technology innovation with business strategy and leading the rest of the company into tomorrow. Canton recently spoke with contributor John McCormick. This is an edited version of their conversation.

CIO Insight: In The Extreme Future, you say the 21st century is going to be lightning-fast, complex and driven by disruptive changes. But aren't we already in this extreme future?

James Canton: We are to a certain extent. But the point of my book is that things are going to get even more disruptive, complex and competitive; things are not going to ease off, they're actually going to accelerate. And the number of challenges CIOs will face is going to accelerate as well.

But people have felt the rapid pace of change before. Just go back to Alvin Toffler's *Future Shock*, which was published in 1970.

Yes. And Al was certainly a mentor. I worked with him early in my career.

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But whats different today is the depth of complexity and the changing role of the CIO?

The need to be able to better predict the future is greater today because there'll be more fallout for companies and CIOs who don't change fast enough or, quite frankly, don't predict fast enough. There's more pressure on CIOs since so much of a company's ability to adapt faster, and to predict and anticipate faster, is technology oriented.

So you see the CIO as the change agent.

Not just the change agent, which is somewhat an outmoded idea, but the change predictor and the change shaper. There's been a dramatic power shift in the organization. CIOs, for all intents and purposes, have an opportunity to predict changes and to be a force for motivating the rest of the organization, including the CEO and the board, to change. But I just don't, quite frankly, see all CIOs thinking that's their role.

How so?

Think about the changes that were not on the radar even a few years ago: green strategies and clean tech, nanotechnology, pervasive mobility and the always-on expectation of customers.

And go back to the dot-com crash. Right after that period, many CIOs would not champion new innovations for fear that it would look like they were getting behind just another new Internet thing. Those CIOs and those organizations were not ready for the next disruptions that were emerging with mobility. Now, of course, we're up against Web 2.0, we're up against Web 3.0, we're up against a lot faster agility. But the CIOs who predicted the return of key innovation are the ones who can link up assets in their ecosystem, create efficiencies and are able to provide more value to customers. Those are the ones who have been better survivors and are ready to thrive as we move forward.

CIOs Go Beyond Competitive Advantage

Yet it seems like a lot of companies call on their CIOs to do just that, to find ways to use technology for competitive advantage.

I'm going to even go further. The next phase of this is CIOs being the ones who propose new products, new services and new strategies.

In other words, CIOs need to own the competitive advantage and then champion that as opposed to just waiting to be called upon by the CEO or the board.

But I don't think that most CIOs spend much time dealing with the process of change.

Let me go to a very tactical area. Every CIO is doing work on, and is interested in, the change process that is critical to transforming the organization's business processes. But that work really has not been done. We're still putting Band-Aids on business processes. We're still dealing with everything from brittle code to legacy infrastructures. The fundamental redefinition and transformation of business process has been done by less than 30 to 45 percent of companies.

What should CIOs do?

I often tell CIOs they should spend a day, or half a day, and get together not just with their team, but with people from other parts of the organization—marketing, finance, product and service development, you name it—and play Let's Kill Our Company. What would the competitive threat look like that would make our company go away? Now what do we do to anticipate that surprise, that threat?

That's a very different approach to risk management.

I encourage CIOs worldwide to play more risk management games, to be able to do risk management audits, to be able to understand and expand the paradigm of what risk is.

Next page: Predicting Change

You talk about predicting change and seeing competitive threats before they emerge. In your book, you say predicting change isn't so much art as science. How does one go about getting the skills needed to predict what's going to happen next?

The first step is to actually believe that it's possible. I have many big clients who have a culture that says, "We can't predict anything, so, therefore, we're just going to be reactive."

So the first step is a mindset shift to where you believe that it's possible to make accurate predictions. The second is to assign a cross-functional group—could be two people—to take on forecasting emerging opportunities.

The third is to come up with a plan about how to execute on that. And here's part of the secret: A lot of where to focus on predicting what's next is outside your industry.

If you're in healthcare, take a look at what's happening in gaming. If you're in entertainment, take a look at what's happening in manufacturing. Oftentimes, by going to tradeshows or being able to hire consultants who have specific domain expertise in industries outside of yours, you can learn about emerging opportunities, even new strategies, that might be essential to your ability to solve a problem, integrate new applications, change your infrastructure or even come up with new product or service ideas.

You need to develop a capacity to talk to customers on an ongoing basis.

I am amazed; I have been asking CIOs at meeting for 20 years to tell me, by a show of hands, how many of them have spoken to a customer in the past 30 days. Generally, it's below 10 percent. But guess who sees

the future first? Guess who knows what's next? Guess who doesn't always articulate problems, the potential solutions to which could be the basis for entire new business strategies? The customer.

CIOs must get involved with customers to understand how their world is changing and identify their needs and then use that as a way to build back into the business real-time information.

The last piece of this is trend analysis. I've developed analytic engines to look at different kinds of trend information, particularly news.

At the Institute for Global Futures, we look at about a 100,000 news stories across a hundred different countries and then we map it with a product of ours we called Trend Trakker.

Identifying Key Trends

How does Trend Trakker work?

It's basically an online search engine and data mining service to identify aggregate trend data from news stories across the Internet. We use it to build a database of key trends, broken into about 10 different areas: globalization, workforce, climate change and technology.

Let me give you an example of how we use it.

In two separate projects, for Hewlett-Packard and General Electric Worldwide, we were asked to identify a variety of key trends—technology trends and overall trends—that were important to their markets and their customers between now and 2015.

With GE, healthcare is a big area. We identified about five key emerging areas related to things such as pandemic control and emerging healthcare utilization. One of the trend areas, the growth of megacities by the year 2015, is going to be very critical to [GE's] ability to manage energy and healthcare services. That surfaced through Trend Trakker identifying an aggregate number of weighted stories related to challenges of companies, geographies and nations in dealing with emerging population and emerging infrastructure.

Another simple example of Trend Tracker was the large number of articles we found related to clean and green products. There was clearly a consumer shift in buying toward those products.

We were able to map that across different geographic areas where consumer's interest was growing. And we factored that into our report to Hewlett-Packard for some of their strategic planning.

Is this all part of what you call "future readiness?"

Future readiness is what I'd like every CIO to be able to embrace.

Future readiness is the capacity to be able to better predict the future and to shape the future. It means an organization is not just looking at today but engaging customers, partners and suppliers in what they'll need over the longer term, and investing in the longer term.

If there's one area I'd like CIOs to really embrace it would be developing more of a predictable awareness about how their industry is changing, how their organization is changing, how their customers are changing in the near future. CIOs need to prepare today for the changes that are emerging one, two, three, four, five years away. The cycles of innovation and development are coming very quickly.

If all CIOs were to make looking at the future part of a monthly review with their direct reports, it would help them better compete and better serve their customers. I think that would be a worthwhile pursuit.

It's getting to be a pretty interesting time to be a CIO.

It's a new era for CIOs. I think more and more of the leadership mantle is going to be passed to the CIO. The expectation is that the CIO is going to find new customers, find new markets, and open up new competitive opportunities through leveraging innovations.

But how? There are still a lot of CIOs who have a hard time getting into the boardroom. And companies continue to have a hard time aligning business and technology.

CIOs need to be smarter.

How many CIOs produce plans that show where future competitive value is, or show where customers' needs could be fulfilled, or show what new products and services could penetrate a market, or how a new IT infrastructure could create an opportunity?

Not as many as there should be.

There's still a lot of room for the kind of innovation where a CIO can have a bold vision and can go ahead and find folks in or around the ecosystem to help capitalize and invest in building it. There's room for CIOs to step up and, I think, propose bolder ideas that will produce competitive value.

The Next Generation of CIOs

A lot of this comes down not just to the CIO but all of the IT staff. No matter how smart people are, they are better when they have smart people around them. A point you make in your book is that companies should invest more in their people.

That's right. CIOs need to be hiring people and retaining people who are brilliant wizards—people who are smarter than they are—in order to really execute.

It's one of the reasons we're starting to see a pullback from outsourcing: The key decision-making group is being kept internal.

But I'm concerned increasingly about CIOs having the right access to the talent that can help fuse business and innovation.

One of the big missed opportunities is that high schools and colleges still do not embrace innovation and technology as much as they should. That is a role certainly for the private sector. If I were a CIO for a company, I'd scope out high school kids and college kids to see what kind of talent I might want to use for some of my company's work. The sooner you get the kids, the better.

It's a bit pathetic that high schools and colleges are not focused on integrating innovations and technology skills into the core curriculum as a mandate. The kids will get math, science and education, but they should be graduating with an ability to execute on technology and business. But we just don't see that.

Where does this leave today's CIOs?

There is a new generation of CIOs emerging. The more they understand where the business is going and can help shape it, the better they're going to be in their careers, the better they're going to be able to serve their organizations and the better they're going to be able to deliver shareholder value.

But more CIOs need to see this fusion of business and innovation as a tool for establishing competitive advantage.

Every CIO is really the visionary in the organization and should be the one looking out over the horizon to see what's emerging next. CIOs should be the ones saying, "Let's take some risks here, let's make some changes here." They should really be the architects of the future or there won't be a future.

I'm a great believer that CIOs have a terrific mandate to chart that future and they must. That is their destiny.