Dell 2.0: Becoming the

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We caught up with him several months into his new assignment managing Dell's customer contact centers in the Americas, India and the Phillippines and directing customer service and support for the company worldwide. The interview was conducted by *Supply Chain Leader* editor Victoria Cooper in Round Rock, Texas.

Photos: Gary Russ

You have a new role at Dell, right?

Yes, Michael Dell convinced me to take on the customer experience area just as I was preparing to retire.

How does someone who has run manufacturing and supply chain operations for over 30 years translate those capabilities into call centers?

Michael and I believe that there is an amount of rigor and discipline that we apply to manufacturing operations that can be applied to call centers.

In the call-center world, we have an input—a customer with a question or a problem. We have thousands of people inside a big box we call a call center, following thousands of processes just as we have in manufacturing. And we have a very defined output—a customer who is not only satisfied but also very pleased with the experience she has just had. And all of these factors are highly measurable, just as in manufacturing.

When you come down to it, both areas are really all about our people. How do you motivate them to do a tough job? At Dell we build a desktop computer in four minutes. How do we engage our employees in our business and capture their ideas to improve our processes? How do we get them trained, developed and excited about what they do? Those questions are the same, no matter what the area in the business.

What is Dell's vision for the customer experience you want people to have, and how is it different from the current state?

In the consumer space, we're dealing with millions of people, literally. The challenge is to create a personal relationship with those millions. We do that extremely well today in the corporate and institutional space, but that requires a full-time account manager who goes into a company and becomes a single point of contact between the customer and Dell. That person may also become an expert on the company's industry. But when you're dealing with millions of people, you can't have millions of dedicated employees move into their houses to get to know them, so the key question becomes, how do you create a relationship?

Dell is uniquely positioned to do that because of our direct model: delivering product direct to the customer.

Customer's Trusted Adviser

Because we deal directly with our customers, we understand a lot about them. For instance, we know what they bought, how we serviced them and the genealogy of everything that went into their computer, including the software, because of our supply chain capability. So who better than us to create a relationship from a service and support standpoint?

My goal is to create a very loyal customer. So let me give you an example of how we are going about meeting this goal. We know that Microsoft's new user interface, Windows Vista,™ needs a minimum of 1 gigabyte (gig) of memory, and probably 2 gig. We know every desktop and laptop we've ever sold that does not have at least 1 gig of memory, so we can go proactively to those customers and say, "You know, you might want to consider upgrading your memory." Or, to offer another example, we know that the batteries in a notebook computer wear out [the amount of capacity they have will decrease], so maybe after two years we send customers a note saying, "We notice that you've had your computer for two years. Maybe it's time to upgrade your battery with a new, high-capacity battery." It may be a proactive follow-up call to a customer on an issue she has struggled with, to ensure that she is still doing well and see if she needs further assistance.

Why didn't you view yourselves this way earlier?

We feel that in the first 22 years we were Dell 1.0: all about supply chain excellence, low cost and driving profitability down the market. Our mantra was to provide great technology at an affordable price. And now we want to move into the next evolution point, Dell 2.0, and the inflection point could be that we've seen our customer experience go down. In Dell 2.0, we want to achieve something more phenomenal than customer satisfaction. We've pondered what that might be and think a worthy goal is to serve as our customers' trusted adviser. We hope to gain customer loyalty because of that role.

What will it take to do that?

The technological ability to populate an agent's screen with the customer's entire history with us when he or she calls in will help us accomplish this. Instead of asking the customer the usual questions—who are you and what is your problem?—we'll have those answers at our fingertips and can proceed without wasting his time, just as in a one-

on-one personal relationship, where you don't introduce yourself to someone who already knows you.

Mass customization and personalization seem to be the major trends in many industries today. What is Dell doing to meet these demands and to stay ahead of the competition?

From both a product standpoint and a support standpoint the sky's the limit for us, and we see a huge upside to more customized and personalized products. We've experimented with colors and some other superficial changes, but one of our biggest areas of investigation is the customization of software images for a consumer's personal computer. What are some of the ways that would not be perceived as invasive but useful for customers? Maybe we could download all of the data from your old system to your new system before you receive it, so you don't have to mess with the transition.

> **"We take our scale and speed for granted inside the company: we ship 10 million systems a quarter."**

Today, in the enterprise space, some customers can modify software in our factories on a real-time basis. Could we do that for millions of customers in the direct model? The answer is, yes, we could. We have the technology for that: for customizing the hardware or the software, even the screen savers you use. Wouldn't it be really cool if we could do all of that for you before you receive the system?

Regarding personalization, today we have a variety of tools that go to the heart of it. For instance, we have a tool called DellConnect,™ which has a remote-takeover capability. It works if you have a broadband system and you can get on the Internet. We can download a very small application over the Internet that will allow us to take over your computer. In total takeover mode, we can move your cursor around. We can control it and your keyboard, and you can watch everything that we're doing.

Today, 80 percent of the phone calls to Tech Support are software problems, and many of those are not caused by Dell. They are from viruses the customer has inadvertently downloaded, from spyware or from a new piece of

software that may have been bought off the shelf. The new data conflict with the software package that you already have installed. Yet, when your computer slows down, you think it's a Dell problem. We may not have caused the problem, but we can take care of it. Instead of instructing you on what to do, we can take over your computer and fix it ourselves.

Would this be a new service business for Dell, then, requiring a new contract with the customer?

Yes, we're looking at that. It might be a PC tune-up service. We'll come in and clean up your PC at 2:00 a.m., when you're sleeping, and we'll leave you an email. It might say, "We checked it out, and you're good to go for *X* amount of time." We've been solely reactive so far. This might create more of a proactive relationship with our customers.

Dell is famous for scale and speed. What are your current production levels?

We tend to take our scale and speed for granted inside the company: yesterday we shipped 100,000 systems, for example. We ship almost 10 million systems a quarter. These include notebooks, desktops, servers, storage devices, and such.

What about innovation; how innovative are you?

A lot of Dell's patents, and we have a lot of them, are process patents about how we do things. For example, how we schedule our factories by zip code—that's patented. Our scheduling system is patented. I think Dell, more than other companies, is very focused on this concept of process innovation. And the processes are innovated for a variety of reasons, including to make them more robust and predictable.

We're very statistically oriented at Dell. We have a program called Business Process Improvement (BPI) which is like the Six Sigma program. And, as we all know, what we want to do in statistics is narrow the variation and shift the mean. So our philosophy is that everything we do is a process; every process can be improved; and every process can be measured. If you have that mindset, we ask, how do you cut the tail off of the outliers— the variations?

What kind of programs and organizational structures have you created for this purpose?

There's a culture around "lean" at Dell. We have a lean

Six Sigma value-stream mapping process that shows what the customer value is and what we can do to improve it. We've been on a journey now for almost two years, using this approach, to make cycle time even tighter than it has been. Why? Because we believe that one of the biggest values we can give our customers is to improve the predictability and speed with which we get a system from order to door.

Overall, we can take a large volume of our orders and ship them within three days of order entry, but we're asking,

"How can we make that one day?" This open-ended question causes you to rethink the way you do things. The other motivator for us is our interest in stretch targets. Most companies want to improve incrementally, at 4-5 percent per year, or, at most, 10 percent. We talk in terms of 30-50 percent leaps, because you can't incrementalize your way to improvements of that order.

Thinking of stretch goals also helps you reevaluate everything you do. So we consider our goal to take our cycle time from three days to one day as a BHAG (big, hairy, audacious goal). When you start down the path of BHAGs, you never know where the journey is going to take you. You don't know in advance all the steps you'll have to take, but once you take the first steps, you can see what improvements they create and go on from there.

I can give you a good example of this in a program we did with i2. When we installed i2's tools years ago, we had a program called DSi2, or Demand-Supply with i2.

We implemented all of the tools in five-and-a-half months. Most companies would take years to do it. So, how did we accomplish it so fast? I believe in the "70 percent solution" rule: hit it quick, get a good benefit, then keep going. I'd rather have a 70 percent solution really quick than a 100 percent solution years out.

Just before we implemented the new solution, I got my team together and said, let's list the top 10 things we're not getting implemented on this first release: the 30 percent left out. We implemented in June and were preoccupied

with the end of the quarter in July, but in August I got the team back together and asked them to make a list of the top ten things they would add to enhance the system now that it was up and running. When we compared the lists, there were only two items that were overlapping. Eighty percent of the items we now wanted were different from those on the earlier list.

My conclusion is that the 70 percent rule works because you don't know what you don't know until you've gone through the process of implementation. Once you see what a solution can do, you see more possibilities and then you can iterate faster. And you learn faster if you go faster.

Is there an absolute or theoretical limit in cycle time? And if so, how far away from it is Dell?

A long way. Let's take another look at "lean," which is all about customer value-add. The goal of lean programs

is to eliminate the non-value-add. [Value-add refers to the customer's perception of value.] It's a simple concept, and that's why I love it. The value-add to build a desktop, including loading the software, is 63 minutes. And today it's taking us three days. Why isn't it 63 minutes? Because we're a long way away from 63 minutes, I say, "Let's get to one day and then go down to a couple of hours, etc."

The team says, "What are you smoking today, Dick? Talk about your BHAGs!" After the shock wears off, we ask, "What would we have to do different? But there's no silver bullet. It's never a case of going off to a drawing board and coming back with a solution. Rather, it's all about incremental learnings. The whole time you're learning, you're improving the process, and you go from 3.0 days to 2.8, then 2.6, etc. That's the way the evolution occurs. The key is to target the dramatic improvement, to think out of the box. By doing so, you skate to where the puck will be— not where it is now.

What about knowledge management—capturing the learnings? How does Dell capture its learnings?

Our knowledge management system is primarily focused in our product development group: they capture lessons learned from previous products using a tracking system by product. But I think a bigger opportunity will come from the WIKI capability of the Internet. It enables real-time publishing in which everyone can participate. If you publish something wrong, the community will correct it. We're doing an internal WIKI right now with 1,000 agents all over the world, asking them to solve one simple problem: how to best avoid an operating system re-install.

We also capture learnings from our BPI process. One of the first steps our people take after defining a problem is to search for information on it within Dell; we don't want to reinvent the wheel.

And another way is through our best-in-class practices. We share best-of-breed practices plant to plant. So we have one kitting process, one boxing process, etc., used worldwide. When we build a new plant, we execute those practices. So, for instance, our new plant in Poland will have similar kitting lines to what we have in North Carolina.

We don't believe in copy exact, though. We believe in best-of-breed comparison and rapid best-practice sharing. Once we learn of a best practice, we steal it shamelessly, and install it as fast as we can.

Dell is known as a manufacturer. How deeply do you consider yourselves involved in product development?

We have more than 4,000 development engineers and several thousand patents, so I'd say we're deeply involved. But let's go back to our strategy and view it from a product development perspective to understand how. I'd say we do a very good job at understanding what customers really value and what they want. We also do a good job of translating that into what the product needs to be and what the suppliers need to do to have their components work in the product.

We don't innovate to be on the bleeding edge and create a solution that no one wants. We're much more practical than that. We're all about taking the customers' desires and translating them into products. We're years out on that. It's like an ecosystem. We're not going to Intel or AMD and saying, "Here's how you should design your processors" and we're not getting involved in their manufacturing processes.

On the other hand, we noticed that notebook processors were consuming too much power and therefore the battery life was low, and we knew our customers wanted long battery life in their computers, so we drove a lot of technology about power management. Our job was to manage the overall system architecture so we could conserve power in our computers.

You've recently built two large manufacturing facilities and have more coming online. Are there new, revolutionary processes in them?

Every new facility is a new opportunity to do something different. The reality, of course, is, once you have a concept of what a new factory should do, you build around that concept. To undo it or redo it would be cost-prohibitive. So, sometimes, we have to shut down a relatively new factory because we've found a better way. When we built our Topfer Manufacturing Center in Austin six years ago, we shut down a plant that was only five years old. But we had learned from the earlier plant. When we built Topfer, we did everything in a 2x mode: how could we double the throughput of the factory?

We optimized around the products we're building. A chassis type has a lot to do with how you set up the factory, and the number of units you'll make has a huge amount to do with it. We built the old plant to make OptiPlex desktops only; they have five or six chassis types. But as time went on, our product offering became more complex, so at the new plant we decided to build all desktops, and not just one family of desktops. So we went from 5 to 35 chassis at the new plant. And when we built the North Carolina plant, we wanted to handle 50–60 chassies, so we created a new technology—all automated—to handle that volume and variety.

At Dell, we continue to build one computer at a time, though. We don't batch, because it's inefficient.

There's a three-letter word I won't allow anyone to say in our factories and it's "mix." I never want to hear the word "mix" as in "Oh, we had a bad mix of products or orders. And that's why we couldn't build them faster." No. I want to build any order any time. Period.

So, whereas in the old days you might have had several pallets and trucks surrounding a group of guys trying to put them on the conveyor, in our new factory it's all automated. It's like a gigantic PEZ® dispenser. No one is touching the chassis anymore. The system calls for different chassis from different conveyor belts. The only job is to keep the PEZ® dispenser full, so we still need someone to pull the pallets from the truck and load chassis on what we call the short conveyor.

I'd like to mention a nine-letter word—inventory. What are the new metrics for Dell there?

The main metric is speed. To give you a feeling for how much we believe in velocity, even our internal newspaper is called Dellocity. We don't look at inventory turns. We look at inventory in terms of hours. How many hours' worth do we have?

Remember our 63-minute goal? The implications for meeting this goal in the supply chain are huge. We're going to have to work with our suppliers to up the speed that we run the factories with their material. And frankly, my idea of utopia would be that every supplier would have the same mindset as we do, although for some things, like wafers, you might have to measure in weeks rather than hours.

Utopia for the supply chain is understanding true demand throughout the whole network and taking out all the buffers because buffers add cycle time. We can let our suppliers know in real time how much of their material we're consuming. One of the many holy grails in the supply chain is to let everyone know that customer "X" just bought a computer from Dell. And we just received the order and we're going to build it in a day or less.

Do you have to reorganize frequently?

Most progressive companies do, I think. Some functions are centralized and some not, but we abide by the notion of organizing around process. And I'm a believer that you get all the people needed to run those processes together and let them figure out the best way to organize, as opposed to creating strict, functional silos. We see the bureaucracy of silos just slowing things down. And, as everyone knows, Dell doesn't like to go slow.

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