

## Master of the Outsourcing Game: Dan McNicholl, CIO of GM North America



Dr. Daniel McNicholl is the chief information officer for General Motors North America (GMNA), managing a \$1.8 billion IT budget, 800 GM IT staff, and another 9,000 contractors at 70 to 80 IT service providers. He came to GM in June of 1997. As CIO for GMNA, Dr. McNicholl is responsible for all information technology and systems, including such areas as engineering, manufacturing, sales, marketing, and business services. His other duties include leading the IT organization to a position where technology can bring a competitive advantage to GM, using technology to reduce the time it takes to develop products and bring them to market, developing more sophisticated systems to track and analyze customer behavior, and taking advantage of advances in electronic commerce and the Internet.

Prior to joining GM in June 1997, Dan McNicholl was at Whirlpool, where he was responsible for Whirlpool's air conditioning and dehumidifier business worldwide, having previously served as Whirlpool's VP of information systems.

Dr. McNicholl recently spoke with Surendra Saxena and Rick Denny about the best practices of GM's 100% outsourced IT operation, GM's transition from a single outsourcing vendor in 1996 to the current seventy to eighty providers, and what it will take for those outsourcers to make the cut to the thirty or forty it will work with by 2006.

OM: What do you mean when you say that GM is in its "third generation" of outsourcing? How has outsourcing evolved at GM?

DM: Well the outsourcing journey for GM began back in 1984 when they purchased EDS and outsourced their entire IT activities to EDS as part of the family. You can think of that as the first generation where EDS ran everything as a part of the company for the rest of the GM. Then the second generation started around 1996, when GM decided for business reasons to spin off EDS — a very smart business move. In doing this they said: "we are going to need to bring in a relatively small cadre of IT leadership now to oversee this arms-length outsourcing relationship" — bringing on board Ralph Szygenda, myself and many other CIOs and process information officers that we now have — overseeing EDS. In those days when I first got here in 1997 as CIO for GM North America, EDS

was pretty much worrying about 100% of what we were doing. So call that the second generation.

Between the second generation and where we are today — the third generation — the difference has been introducing more competition into the outsourcing model. We've gone from having 100% of our work done by EDS, to maybe in the neighborhood of 80% of the work being done by EDS. We now have IBM, Lockheed-Martin, HP, Accenture, PricewaterhouseCoopers (which is now part of IBM), Wipro, Sapient and many other companies small and large to help me do my business. So, the third generation is characterized by multiple vendors working in a loose federation. Well what we are talking about today – literally Ralph and I were talking about this today – is the way to move by 2006 to a fourth generation. This will be where we have a very tightly governanced model of vendors who are working together under our direction but in a very tight federation — no longer just depending on GM to integrate that. So maybe we will end up with three or four big companies and several more second-tier companies teaming with each other managing GM's business in a very highly orchestrated fashion. So in a sense it's been a journey all along.

OM: That's interesting – it sounds unique relative to other outsourcing models that we are familiar with.

GM: We are one of the first companies to go through one major Master Service Agreement and start going into the next generation. Other companies have couple of years to go before they get there.

OM: How many IT services vendors does GM have?

DM: Today it is probably larger than it will be in two or three years. As you go through the third generation, you have to widen the number of vendors before you get to the fourth generation. I would estimate that today we have 70 to 80 IT vendors, but when it comes to the fourth generation it may go back down to 30 or 40 with three or four big guys at the top.

OM: It sounds like a very competitive time for your vendors to provide you the best service to make it to the next round.

DM: Absolutely. Not just because of the opportunity at GM, but also given the whole economy and the situation with IT expenditures. IT vendors are hungry and that helps all of us.

OM: You refer to your model as being 100% outsourced. In terms of activities, what does your staff do, as opposed to the outsourcers?

DM: Imagine a pyramid. There is a little pyramid sitting on top of a bigger pyramid. That little pyramid is made up of GM staff. In GM North America, I have about 800 GM IT staff overseeing about 9,000 contractors. Worldwide, we have 1,700 GM badge folks overseeing 13,000 to 14,000 contractors. We are just the top of the pyramid, so the work we do is quite specific. We are the general managers – the overall CIOs, like myself; process IT experts – the people who are experts in how to use IT for vehicle engineering, IT for sales and marketing; project managers; operations managers who oversee the vendors operating us; IT architects who are able to say “here’s how we want our system to be built,” without going into too much detail; and contract managers who understand how to use SLAs [service-level agreements] to manage vendors. We think of ourselves as the managers, in a technical and operational sense, at the top of the pyramid, turning to the vendors and saying: “Do this for us under these guidelines. We will govern you and oversee your performance.”

OM: Is it your staff that translates GM’s business requirements into technology requirements?

DM: Absolutely. You know my staff is the face to the business, the internal client. Take my organization, the IT organization for GM North America. Underneath me, for example, I have an individual named Clarence Ogletree, who is my IT leader for manufacturing. He actually sits on the staff of the manufacturing VP, he reports to manufacturing, his office is in their building and his people are on that organization’s headcount. They feel like it’s their organization. There are no dotted lines allowed in this matrix organization. Clarence feels equally a part of the IT organization as he does of the manufacturing organization. He has to work with his business colleagues to determine how to use IT to enable the business better in the future. Then he has to work with the internal IT organization on how to deliver those capabilities and on how to operate those capabilities. He’s the face to manufacturing and behind him are all these vendors doing the work.

OM: As you look towards the fourth generation from where you are now, where do you think that outsourcers, or the outsourcing process, could use improvement?

DM: We are cutting a new path on this at GM in the sense of forcing vendors to integrate deeper with each other and with us. For example, if I have four or five major vendors running different parts of my operation and each of them have a separate problem escalation process and system, I cannot talk to four different systems to find out what’s happening today. I need one window into my operation, so I have to integrate their systems together and processes together. Likewise they have to be prepared to do business in a new way. In the last couple of years, I’ve been moving my organization to an “e-contracting” way of doing business where my users and my IT people get online and order stuff. If the system is ordering telephone equipment it needs to talk to AT&T and SBC; if it’s ordering PCs it needs to talk to EDS and HP today; if it’s ordering some

development activity it might need to talk to IBM and Lockheed-Martin... In the future the vendor's processing and systems they cannot stay behind a wall — they have to integrate with people they compete against and with their customers.

OM: Somehow, I imagine that's antithetical to the nature of many vendors.

DM: It is and it isn't. It is in the IT industry in general, but there is a great paradigm out there where this works every day and it has for the last 30 or 40 years. Think of the aerospace and the defense business: Boeing, Lockheed-Martin, Grumman, General Dynamics, etc. In that industry it is very typical that today you are teaming with one company and you are also competing with them on a different program. So, there are proofs of existence that this model can work.

OM: Currently, how often do you have multiple vendors working on a single project?

DM: Very very often — on a moderate to big size project, it's rare that one vendor can handle it all. Many times for example, if a vendor is working on a big complicated program that requires lots of interfaces to my legacy systems, I'll request that they subcontract the writing of the interfaces to the legacy systems to EDS who runs the legacy systems, because they know more about that. In other cases if a big company comes to me wants to do business and does not have a strong offshore presence in India or elsewhere and their rates are too high, I'll tell them go team with an offshore company and bring the rates down. We see a lot of that. So teaming at GM today is pretty prevalent. Now sometimes they do it voluntarily and at other times I request that they team.

OM: With 70-80 vendors, how do you decide who is best-suited to do each project? You mentioned EDS does the legacy systems work. Is each new project bid out separately, or do you have longer-term relationships with some vendors, where you send them projects for which you think they'll be a good fit?

DM: Between 1996, when we spun off EDS, and 2006, when the current agreement ends, there are certain guarantees [to EDS] about what parts of the business I can put out for independent bids and what part I can't. It made sense to do it that way when we spun off EDS to reassure people buying EDS shares that GM was not going to pull all the business away from EDS, to give some guarantees. Basically there are two categories of work I can put out for competitive bids: one is new development that isn't replacing existing systems. I can compete that out by putting RFIs [requests for information] and RFPs [requests for proposal] out on the street. By now I know which vendors are probably strong in that area, so we invite seven or eight vendors to bid on it, and then select the best one on the basis of quality, technology, cost and service. In addition to that, every year there is a certain set amount of money in the contract that I can apply to bid out: in operations, desktops, or anything else that I want to. So, I pick certain areas where I want

to get other vendors visibility into GM and put EDS under competitive pressures. That's worked very well for us.

OM: On a day-to-day basis, how closely does a GM IT person managing a project work with an outsourcer's staff?

DM: Oh, very, very closely. The best indication and the best symptom of success is when I walk an operations review or a project review and have trouble telling who the GM person is and who the vendor person is. They are well integrated. On the other hand, we don't do a lot of body shop contracting. When we contract, we typically do bundled service contracting. If you do a project for me to build me a new system, I'll ask you to bid on it as a firm fixed-price bid after I have all the requirements done, and when you take it over, you are totally responsible for it. Here's the requirement, here's the schedule, here's the service level agreement, and if you do it right you'll make a lot of money; if you do it wrong you'll lose money. I'll have people working with you, managing you, overseeing you and checking you, but I don't want my people getting into the details of how you are doing your job because that's why I hired you.

OM: Do you see many vendors doing a good job of "hiding the plumbing" from you, in the sense that they are doing some of the project work locally, some nearshore and some offshore, in a seamless fashion?

DM: Yeah, though I wouldn't call it "hiding," because one of the reasons I think GM is a master of the outsource game today is that we don't let people hide things. We understand exactly what each vendor is doing where. Now, understanding and interfering are two different things. If you want to move 30% of that work to India, go ahead, as long as you can meet the service level agreements and the schedules. We want a lot of visibility, but we don't want to interfere.

OM: Are your vendors doing a good job of doing work offshore in a way that doesn't make it more difficult for you.

DM: Absolutely. Yesterday, we were reviewing a major bid with four companies each bidding for all of it. All four with various degrees offshore and onshore: one company bid 20% offshore, another company bid 80% offshore. These companies are beginning to master how to do this — some a little better than others — but they are all aggressively on that journey. Unfortunately, if you come in today to bid a project for me and you're bidding all US labor rates, you might not win the program, because those labor rates are too high. If you put together the right combination of offshoring and US-based labor, you'll win the contract. So, some companies are better than others but all companies are improving, literally overnight.

OM: What are some of the management and communications tools that your staff uses to manage the outsourcing process?

DM: Well, I wouldn't necessarily use the word "tools" — IT organizations such as ourselves seldom have our own tools, but we do have strong processes. Key is you need to have what GM CIO Ralph Szygenda calls "big rules": rules that all vendors and all GM people understand about how we do business. For example, one of Dan McNicholl's big rules for GM North America is that all my development will be done under firm fixed price contract. That means I can't put it out for bid until I specify all the requirements. I may use a vendor to help me do the requirements on a time-and-material basis, and then put the requirements out to bid to six to eight companies. I accept on my side if I change the requirements, then of course we will have to negotiate it. But that's a big rule.

Some other big rules are: we have standard ways we measure progress; standard terms and conditions; standard service level agreements on operations, for example. The trick to making outsourcing work, in my opinion, is to find the right level where you specify the big rules to the vendors but not specifying the details of how they are supposed to do their job. I had situations where my people thought they knew the right detailed architectural approach, and they actually wrote it into the contract. Guess what? It didn't work, and the vendor came back and said, "hey it didn't work but your people told us to do it." And he was right. Nowadays, my people aren't allowed to specify in the contract to the vendor: you will use A, B and C. They can say we recommend you use A, B and C, but it is up to the vendor to accept that, and to say whether it's going to work or not. Big rule processes are disciplined processes, but the key — I think — is to not be too detailed in the methodologies.

OM: So in many cases you might specify the development platform or the deployment platform but not necessarily the development tools that are used.

DM: Exactly, we might say "you will use an integrated development environment. It will produce at least the following artifacts, which will be delivered," or we will say "you will use J2EE or .NET" but we won't say you use our words and our methodologies. Now, sometimes we vary from that, and right now we are in the process of reminding our internal people: "we are not an insource model guys: stop telling the vendors too much detail."

OM: Software development projects are notorious for their problems. What do you do to keep software projects on time?

DM: Our industry has a lousy track record, as you know, of delivering major IT projects on time, on budget and with high first-time quality — that's my phrase. We are not perfect within GM, but I'll hold our track record up to anyone's. You can go and read something like the Standish Group reports that say 50% of all projects fail on one or more dimensions. I keep very careful statistics, metrics and all that stuff — our track record is

much better than that. In the 6 years we've been here we've not had a catastrophic project failure. We've had some projects that were late, some projects over budget, some projects with first time quality problems; but our percentages are in the high 80% plus to 90% plus success range. We have a very disciplined project management system. I have in front of me right here a dashboard of 200-300 projects, \$1.8 billion worth of IT a year. I have about a 3 page dashboard over here that tells me how our projects are doing financially this month, how they are doing with quality, how they are doing with deliverables, schedules, etc. We spend a lot of time reviewing this fun stuff — it's a management focus.

OM: On your dashboard, what is the first thing that your eyes go to?

DM: I have a typical executive outlook – the first thing I look for is red. It's color coded: red, yellow and green. So I go right down here — look this month here's a project in it's first month of operation it's red. It's a \$4 million program in my manufacturing area — I won't tell you what the project name is – so the first thing I do is read the description and call my manufacturing IT Team leader and say “what's going on?” If I don't like the answer I have at my level, and Ralph [Szygenda] has at his level, a monthly corrective action meeting where we identify projects and the vendors come in for these. Though we try to be constructive at these meetings these are usually not meetings that you want to come to too often. The vendors come, and they feel our pain too.

OM: You make sure that they feel your pain.

DM: Yes (laughs).

OM: How are you trying to make that dashboard real-time or quasi-real-time?

DM: Oh, it's a real-time online database system. In a large complicated organization like GM North America, and of course GM overall, our success is based on knowing how often to look at things. I could drive myself crazy looking at 200 projects every day, so I have a system where I look at a small subset of about 20 projects that are very big or very important that I watch almost daily. There are others that I look at them monthly, and dive down if something doesn't smell good. You can't manage a \$1.8 billion IT organization the way you can an \$18 million organization.

OM: When we spoke a couple of months ago, you mentioned that even when working with the same vendor you'll get inconsistent performance – some projects go well and others poorly.

DM: Absolutely. One thing that always surprises me is that among most IT vendors — system integration vendors, hardware manufacturers, software vendors — very few of

them what you can call in the marketplace a very strong brand equity. They all come in here and sit down with me and want to get new business and they say there are good at everything: “we’re good at quality, we’re good at meeting schedules, we’re good at meeting budgets, we’re good at this, we’re good at that...” You know if they claim to be good at everything, they’re good at nothing. An example of strong brand equity is when I went out to buy my first big screen TV maybe about 5 or 6 years ago. I went down to Circuit City and Best Buy, etc. and walked in and said I wanted to see a Sony large screen TV. They said: “sir, we’re having a sale on the Toshiba (or whatever)” and I said: “no, I want a Sony.” I knew I was going to pay more for Sony but somehow Sony had created a brand identity in my mind and that’s what I wanted. IT companies typically don’t have a strong brand identity, whether it is IBM or EDS or CSC or Lockheed-Martin or Accenture or Braxton [Deloitte Consulting’s new name] or whoever — tell me what they stand for. What’s their strong component brand identity? Pick one thing and be the world’s best at it. Maybe it’s quality, maybe it’s low cost, maybe its speed. A company that’s come closest to doing that is a medium size company — have you heard of Sapient? Steven Moore came here and he wanted some business. I said “what are you good at?” We talked about it a little bit and what we stumbled across was that he was so proud of his requirement definition and gathering methodology. He is willing to do requirements definition under a firm fixed price contract — which typically I would not ask companies to do, because it’s rather vague. So I said: “come on in and try a couple.” Well, guess what? He came in and tried a couple and now he’s got 14 projects going. He picks up and has built his company an image that we’re very good at this. Now he’s trying to expand that image outwards, obviously...

OM: Sapient is interesting because they seem to be one of the few second-tier up-and-coming vendors of the late nineties — e.g. Scient, Viant, Lante, MarchFirst, RazorFish et al — that still seem to be doing reasonably well.

DM: They’ve been very successful here at GM for the last 18 months.

OM: Dan, before joining GM as its North American CIO in 1997, you managed Whirlpool’s global air treatment business. What are some differences and similarities between being an IT Leader and running a P&L-based business?

DM: I think there are two ways to be a CIO. One way is totally different from being a P&L business unit leader and the other way there are a lot of similarities. There are some CIOs who spend 60-70% of their time deep into the IT technology, understanding J2EE, 802.11b and x, Web services, Java engines, whatever and there are some CIOs who spend 60-70% working on the business needs, and we’ll keep up with the technology. I put myself in the latter camp. I don’t necessarily say one is better than the other, although I obviously have a bias. Being able to work with my engineering colleagues, sales colleagues, manufacturing colleagues or my supply chain colleagues and figuring out how IT can be brought to bear to help them; understanding their needs; and educating them not only on how IT can help them, but also how to work together to deliver that

system — that's closer to being a P&L leader. A true CIO has to be a general manager just like a P&L leader has to be. On certain days, I have to be a ruthless bean counter and deliver my budgets and cost reductions. On certain days, I have to be the innovative strategic thinker who is working with the business to change the world. On certain days, I have to be the chaplain, listening to people problems: Peter doesn't like Sally and Sally doesn't get along with Peter and to think about how to change the organization to accomplish that. On other days, I have to be the train engineer who keeps the train running, making sure the systems are running. A great CIO has to be good at a wide variety of things just like a general manager has to be.

OM: What are some of the major technologies or application areas, which have the potential to make a major impact on GM's business, where you expect to invest over the next few years?

DM: I am a strong believer in Customer Relationship Management. Now I don't believe — unlike a lot of people selling it — this is an instant solution or quick band-aid. In my mind a company that is embarking upon a program to establish an intimate relationship with its customers better have a long-term horizon to do that. You don't turn yourself around from being a Woolworth to being a Nieman-Marcus overnight. You have to invest the time. We're investing a lot of time and money going down path we believe in 5 or 10 years from now where we reap all the benefits from where GM is seen to be a company that really cares about its customers and has an intimate relationship with you. Obviously, there are a lot of system applications to that, but also many more cultural transformations and business transformations to that, as well.

Closely tied to that and separate from that I have 7,000 dealers just in the US, selling our vehicles every day. Using systems out in their stores many of these systems provided by companies such as Reynolds and Reynolds or ADP. GM systems are not integrated with the retailer's systems. I have a big focus going on to integrate our systems' with the dealers' to streamline the process and make ourselves an agile community.

We've done fantastically in applying IT to the product development engineering space with all these math-based tools. Some of the stuff I've got is like science fiction — if you haven't seen it it's amazing. Plus I can take the same math pipeline technology and extend it downwards to manufacturing.

Supply chain integration: we're doing some significant work with how we collaborate with our suppliers; designing products; components.

OM: Is most of that with Covisint?

DM: No, Covisint plays a role in it, but Covisint is only three years old and we've had this program going for four to five years now. We've got tools: you could be an engineer sitting at one of my suppliers designing my seats for me, and you and I could be accessing real time virtual-reality tools marking it up in real-time. Your logistics guys at

your factory are getting real-time feedback on the quality of your seats today in my factory, you are getting scheduling changes in real time. Many years ago we used the term “extended enterprise.” It’s here now.