AstraZeneca CIO Makes IT Twice As Good At Half The Cost - Here Is How

Peter High , CONTRIBUTOR

When Dave Smoley joined AstraZeneca as its Chief Information Officer, he already had cemented his reputation as one of the best CIOs in the world. He had been inducted into CIO magazine's prestigious CIO Hall of Fame based on an impressive track record at Flextronics. He brought that experience to a pharmaceutical company that was in turnaround mode. As he diagnosed the issues with the IT department, he was amazed at how expensive IT was. Not long after his arrival, he announced that IT would be twice as good at half the cost. Now, nearly four years into his journey as CIO, he has delivered upon this promise.

The methods he has used are interesting, and to some, they may seem counter-intuitive. For example, Smoley insourced a tremendous amount of IT. Ironically enough, the company had outsourced much of IT a decade earlier with the promise that that would reduce costs. The opposite action has led to hundreds of millions of dollars in savings.

In this interview, Smoley describes his strategy for this transformation along with a six-point cloud toolkit. He also describes other methods used to dramatically lower AstraZeneca's IT spend while delivering more.

Peter High: I thought we would begin with an overview of the nature of the transformation you have led at AstraZeneca. What did you find at the commencement of your journey with the company, and what were some of the changes you undertook in the immediate aftermath?

Dave Smoley: About three years ago, when I joined AstraZeneca, the business was in a turnaround situation. Like many large pharma companies, we had a large number of blockbuster drugs that were multibillion dollars in revenue and profit that were coming to the end of their patent protected life. That meant that those revenues were going to drop off, and it was important to replace them with new revenue sources. We were in a turnaround situation building the pipeline and managing the transition from the old drugs to the new drugs. It was a challenging time for the company and on top of that, making it worse, the IT infrastructure was not performing in a way that was helpful.

The quick diagnosis was that the work had been outsourced in aggregate and then re-outsourced again. About ten years ago, they took all of IT and gave it to one service provider who could not perform satisfactorily for the business, so they then looked at that as a procurement problem and decided to split the work amongst what they called an "ecosystem" of providers. We had six to eight different service providers doing different parts of the IT ecosystem.

That is where we were three years ago, and it was not working because to get to run or build or do anything in IT required between three and eight different service providers to be involved. There were too many hand offs. Ours is a tough, highly regulated industry, so there should be a lot of documentation and validated processes which exacerbated that complexity. It was expensive, it was slow, there was an awful lot of finger pointing at the issues, and there was not a good healthy discussion around what was broken and how we could fix it.

We focused on five key items that were the pillars of our strategy. First was **focus on the customer**. We made it clear to the organization that a lot of this was just a cultural and a mindset shift so that the most important thing is the customer. That customer might be a patient or a health care provider, but more typically for IT, it is another part of the business, maybe even another part of IT or another function that we are doing work for to enable them. We have to understand who that customer is, what drives value for them, and how we are either helping or hurting that.

The second thing was a commitment to **operational excellence**. The outsourcing trend of the 90s and early 2000s was in some ways, an abdication of responsibility. It was done by companies who said, "Hey, we are not an IT business, we will leave that to someone else. " The reality is that when your company is as big as AstraZeneca, the number of people and the amount of money spent in that area is more than many technology companies and more important than many other parts of the business to success. We were feeling the pain of not doing well. We said that we have to commit to being excellent in running IT. We have to understand how to measure it, how to improve it, how to simplify it, and how to be successful as an IT shop.

The third thing was **technology leadership**, understanding the rapid pace of change in technology, who are those companies that are leading the way, how do you partner with them, how do you identify and apply those technologies into your business.

The fourth focused **collaboration both across IT and across the business**, that was something we needed to do better, and the fifth was simplifying.

We used those five pillars: customer focus, operational excellence, technology leadership, collaboration, and simplification that we focused on to turn things around. Our strategy was then to bring the work in-house to unwind these eight different partners who were creating all these handoffs. We greatly simplified, brought that work in-house and at the same time we moved quickly to what was then leading edge technology, primarily a big push to get into the cloud through some of the leading software service providers, and in some cases moving part of our infrastructure into the cloud as well, greatly simplifying and consolidating the number of data centers, the number of servers, the number of applications that we had across the landscape.

High: You have also committed to a cloud first strategy, and I know from our past conversations that you have a six-point cloud toolkit. Can you provide an overview of that?

Smoley: The six-point cloud toolkit is basic. The first thing is to **start with a business problem**. A lot of people talk about cloud as the answer, but you cannot talk about cloud as the answer unless you know what the question is first. Along with our five-pillar strategy, the question starts with the customer. What is the problem the customer has, and then how can we solve it?

Point two is **use proven tools**. There are a lot of tools out there that are widely accepted and that many companies are running on that are successes. For us it was Workday, ServiceNow, Box, Office 365, DocuSign, Concur, and many more. These are tools that are leaders in their space. They are highly innovative companies, they are companies you can develop a close partnership with because they are continually improving their tools and technology. Once you know what the problem is, I suggest you go to those proven tools and if you do not find one, then you start to ask around and figure out through your network who does know of a tool that is out there that you can use?

The third in that toolkit would be to **set ambitious goals**. You are not going to achieve a transformation in your company by setting comfortable, easy, safe goals, you need to stretch and push the organization, yourself, and your team, to think outside the box. When we started three years ago, for example, we said we want to be twice as good for half the cost. At the time people said that is crazy, how do you literally cut your costs by fifty percent and by the way, at the same time, perform better and do more? At the time, we set that goal because it was a crazy goal, but it got people discussing whether it was possible and why, how, and what can we do.

I am happy to say that after three years, we are, in 2017, going to achieve the half the cost goal, and we have more than exceeded the double the good. We clearly have areas where we can improve more, but setting those kinds of stretch goals got us further than if we had just set a comfortable trajectory of ten percent reduction and things like that.

The fourth thing is **do not hold back**. You must go big, and you should be all in once you commit to the plan. It is good to start small and build up through experiments because you do not want to find out that there is going to be failure or there is some reason why these tools will not work for your company, but then again, you cannot be timid about it. When we went with DocuSign, for example, we have gone quite big and ambitious in terms of the number of envelopes or digitally signed documents that we are trying to implement.

The fifth item is to **change the relationship**, making sure that you can build a trusted partnership with the business. Typically, in history, companies have had a buy-sell relationship with their vendor, but they have also had a buy-sell relationship with IT. "Here are my requirements, here is what is broken, I need you to fix it." It was being an order taker, chaser, and a fixer as opposed to an engaged strategic partner. Changing that relationship is critical to the next phase of IT partnership with the business, and that comes from building credibility through cleaning up and doing the foundational things, running a network, compute, and storage that is reliable and efficient. Once you get beyond things breaking, you can get into the conversation around where can we do innovative things and where can we try for a competitive advantage through the application of technology.

The sixth and last part of the toolkit is to **partner with innovators**. When you look at some of the companies I mentioned, companies like Workday is a great one, for me has been a terrific innovator to partner with over the years, and there are many more. Clearly, when you look at an Amazon or Google as the real future leaders in the tech space, these are companies that you want to partner with. I call it partner because there may or may not be a buy-sell aspect to that relationship. Eventually, I would expect you would have a buy-sell relationship, but it is not like those relationships in the past when you negotiate and agree to buy a product or a series of products. This is an ongoing relationship where you are, through the course of a year, in close contact at the architect level, maybe at the project leadership level or the service level, around what is working and what is not working and what the future could mean for you as a company and for your partnership. These guys are pushing the boundaries in cybersecurity, they are pushing the boundaries in cloud computing and hybrid and the ability to move large workloads around and provide better metrics and visibility. Your ability to help direct them and take their direction on where things are going is the key to success.

High: As I think about the amount of change that you just described, from the in-sourcing transformation to the move to a variety of cloud partners and engaging new partners, changing from legacy tools to modern tools is an enormous amount of change in three years. Can you talk a little bit about the way in which you thought about rolling through that change so that it was digestible to the organization? You mentioned a moment ago, to set ambitious goals and do not hold back, I imagine that

it was aggressive and that you erred on the side of being aggressive, but how do you think about the change management associated with this?

Smoley: Change management is one of the fundamental keys to success in IT. As large company IT, we are absolutely enablers of the business, but quite often we are transformative enablers. Whether it is a business turnaround as it was in AstraZeneca when I joined, or whether it is transforming a function or a process, the application of technology typically does drive that kind of change. It is important that change management be something that we consider our core competency and is something that we are constantly trying to get better at. It is not something that we are typically good at, most IT organizations that I have been in have been inadequate in this area. We are largely computer scientists and tech guys and tend to be more introverted than extroverted. Yet change management requires a lot of front of the parade, arm waving, discussing, and listening types of consultative behaviors where it is important to understand who are the stakeholders, what do they have at stake, and how can you optimize the outcome.

We were clear up front in setting ambitious goals. We then defined how we would do that. Three years ago, we set a high level, three-year plan for how much cost we would take out, how much improvement we would see, and then how we would do that. We were able to move quickly.

I was blessed in this role to have a CEO [Pascal Soriot] who is a transformative leader as well, and he was supportive, encouraging, and challenging.

We in IT align with the business. Every senior executive has a dedicated IT leader and that IT leader and their team has end-to-end accountability for the systems and the IT for that business unit, the performance, the cost, the quality, the strategy end-to-end.

Behind those, what we call the front-end business teams, the customer facing teams, is a shared service that is software, hardware, infrastructure, enabling program management, agile, and all those sorts of things that provide services to the front end to make sure that they are able to deliver. I think the change management part comes from staying close to the business and the customer and engaging them in a responsive way around how things are going. In our case, we in-sourced a tremendous amount of work, which means the number of people that we have in IT at AstraZeneca has tripled over the last three years.

It has also been a shift where we have, in some cases, re-skilled and relocated to be more global and more technically oriented versus service management oriented. There have been parts of the organization where the IT population has gone down, and some other places where it has gone up. It is important to manage that process with a lot of transparency and help people to make smart decisions about their future and their career and to do that in an empathetic way.

High: I want to go back to your ambitious goal of IT needing to be twice as good at half the cost and the fact that you are going to realize that vision three to four years into your journey, remarkably enough. Can you talk about how that cost savings has been broken down while increasing throughput?

Smoley: First, you need to understand your costs. Few organizations have a good handle on total IT costs. It is not unusual for costs to be largely in IT, but then to have other parts: possibly shadow IT, or it could be knowingly separated, whether it is in a market as opposed to centrally, in functions, or maybe even managed through third party contracts through other functions. We started by getting an inventory of what all our costs were, and they were staggering.

Back in 2013, we were close to $2 billion in total IT cost from a cash perspective. This is not just the operating costs of the capital but also the restructuring, the cost of acquisitions and other factory engineering sorts of things. It was around $1.8 billion, and we managed to get that down. In 2017, we will be below $900 million, about a 48 percent reduction, meaning we have basically met our audacious goal.

The big shift for us was about $600 million of that was being spent with third party service providers because we had outsourced our IT. What we have done over the three years is to reduce that greatly. We are down by more than $400 million out of that and at the same time we have built a technology center in Chennai, India, we have got a second technology center in Guadalajara, Mexico, and have hired strong tech oriented resources into those two locations to complement our other locations in the U.S., U.K., Sweden, China, and around the world. Those are full-time AstraZeneca IT employees.

We are much more strategic and thoughtful about how and where we use third parties, and it would typically be in areas where it is technology that we cannot find or get ourselves in a startup, or if it is a peak sort of situation where we need the capacity for a short period of time but we are not committed to it long-term, or what we call brains on a stick, where you have got something that you need to do, you do not have it internally, and you do not have the time to build it.

In general, over the years, we have found that there is almost nothing you cannot do better yourself, especially when you have the size and scale of AstraZeneca. I can understand for small companies, you have to rely more on third parties, but for a company our size, we have got over 3000 people in IT. That is a big chunk of people, and IT drives productivity for IT's sake. For example, cloud is much more efficient with much less need for capital, infrastructure, or for infrastructure oriented people, and you have a lot of efficiency through increasing automation and machine learning.

Not only when you bring the work in do you save from the profit you are paying someone else, but you are also able to be a lot more efficient and effective with getting the work done. By putting the teams together in a way that enables them to collaborate and have career paths that span multiple groups, it is a much more enriching workplace and it is a great way to attract people from consulting firms or other outsourcing firms where they do not feel that connection to the product, or in our case, they do not feel connected to saving lives or connected to make a difference in the world, and that is something that is great for retention and great for the quality of work life.

High: The extent to which there were several roles that you needed to create as a result of the in-sourcing, I can imagine it was a significant recruiting exercise. Can you talk a bit about the way in which you went about that?

Smoley: There was obviously a heavy HR effort to think through what skills and what roles we needed. At one point, at beginning of the second year, we had over 800 folks who had to reapply for jobs. It was incredibly disruptive and painful. I think the team did a good job of sharing openly with folks what the situation was going to be for the company, for the site, for people, making sure that they understood their next steps.

In Chennai, where we have gone from a building that was not even completed up to over 2000 people and will be close to 2500 next year, it was a function of building an HR machine. One of the first hires we brought on was a strong HR leader and some strong recruiters. We had an internal recruiting team, we also partnered with outside recruiters as well, and in some cases, we did a little bit of partnering with

our service providers to get started and seed the teams, have some people rebadge or spend a little time on loan.

The AstraZeneca brand and the work opportunity that we brought to that market was attractive, and it remains attractive. I think it is in a great location, it is a beautiful facility, high-end from comparative perspective in that area. We spend a lot of time and energy making it a fun, interesting, educational, and stimulating place to work, so we have had much lower attrition than the market. We have been able to recruit some top talent into that place through the process. Once you get started in that way, then it is self-fulfilling with good people bringing other good people.

High: You have mentioned a number of trends that you see of growing importance. You mentioned machine learning for instance, and certainly cloud computing, while not a new trend, but the extent to which you have thought of leveraging it to your advantage I think is an interesting nuance. As you think to the future, any other trends that are rising in importance?

Smoley: In our case, I think most of the interesting stuff is already here, but we are not fully utilizing it. For example: mobile. I think the trend to try to get more of our data, our analytics, our applications onto handheld devices in every function is huge. When you think about externally, for us, we are working hard to figure out how to get clinical investigators mobile devices and how to get into the hands of our patients and health care providers. In our business, there is still a lot of paper and a lot of regulatory requirements for ways of working that are not progressive, how can we take advantage of mobile technology.

Then there is the next level of sensors, but I think the big opportunity is just basic mobile apps that are usable, the major investment in user experience, human behavior, and understanding what motivates people to do things, to stay on their medicines, to record and report information, adverse events, or things like that.

Voice recognition is quite interesting. The whole "Alexa" phenomenon is fascinating, and I think there are a lot of areas where using voice recognition, using chatbots and automation, we can begin to take the mundane work out and streamline a lot of things that are not particularly complex. I know video has been around for a while and it is incredibly useful in our personal lives, but in the enterprise, there is more to do in terms of getting people to share via video, making it easy.

Cyber is a huge ongoing challenge. It can be daunting to think of the risks to the country, to big companies, and industries in that space if we are not on top of it. That is an area that is important although we do not talk about it a lot. The thing that is interesting about all of this is to think about who are the real innovation drivers because there may be other tech stuff that is coming. Google, Amazon, Microsoft, Salesforce, Workday; these companies are continuously investing, researching, and experimenting in these areas that are driving change for their products, their customers, and for the industry.

High: How do you and your team experiment?

Smoley: I like to think we are experimenting at experimenting. It is just one of those things that the simple answer is "just do it." Whether it is buying an Alexa

for yourself or buying Alexa for your staff. Telling your staff or your CEO and team to get a Facebook account. I get on Twitter, I want to try LinkedIn or check out TechCrunch. It is important to try things. It

is not expensive, it is available in the consumer base or on the web. If you are going to be in tech, you have to be passionate about this, which means you have to spend time in the evening, on the weekends with your kids, with your friends talking about it and fooling around with it.

Within the company, we have a CTO and a tech innovation organization within IT. Close to two years ago, we committed to the tech innovation landscape. We have got some folks in Silicon Valley we have some folks in Cambridge, UK, we have them in Shanghai and in India. They are all connected, and they are working on the tech trends. They are active in having conversations with venture capital firms and growth stage companies. These are companies that have products, have revenue, but they are trying to scale up and partner with large companies like ours. We have a database that is used internally to track who we are talking to and how it is going.

It is not easy. We just recently reorganized a bit, and we took a lot of that early stuff, the tech innovation piece, and we combined it with our enterprise architecture team, our product portfolio group, and then our delivery PMO. We have it, end-to-end, on one team. The innovation all the way through prioritization, and into delivery is a central center of excellence, and we put it under a seasoned leader who had been running our infrastructure and operations group. He had three years of credibility in fixing the guts of the organization, performing massive cost cuts, massive consolidation of data centers, huge network improvement in our cyber. We shipped him to focus on how we take all these innovative technologies and apply them to get a competitive advantage and achieving the necessary outcomes.

The next phase is about creating and nurturing that culture of experimentation. Getting to a better place is an ongoing process. Most of the technologies needed will not be "out-of-the-box" solutions. Most of them can be applied in different areas depending on what you are trying to do. The tech trends and business priorities need to come together with advice and perspective from outside the company. Give the team a problem that needs to be solved, and have them run a sprint to experiment, come up with solutions or go back to the beginning.

Peter High is President of Metis Strategy, a business and IT advisory firm. His latest book is Implementing World Class IT Strategy. He is also the author of World Class IT: Why Businesses Succeed When IT Triumphs. Peter moderates the Forum on World Class IT podcast series. He speaks at conferences around the world. Follow him on Twitter @PeterAHigh.

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