

## **Morgan Stanley TMT Conference**

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## **CORPORATE PARTICIPANTS**

Vishal Sikka Chief Executive Officer & Managing Director

## **ANALYST**

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Parag Gupta:

Hello, everyone. I'm Parag Gupta, the India IT analyst, and I'm very pleased to have Vishal Sikka from Infosys, the Chief Executive Officer. He's been in office since August 2014, and the stock's had a great ride since then, so it's good to have him back for the second time at our conference.

Before we start off, I think I just need to read out a quick disclosure. So, please note that all important disclosures, including personal holdings disclosures and Morgan Stanley disclosures, appear on the Morgan Stanley public website at <a href="https://www.morganstanley.com/researchdisclosures">www.morganstanley.com/researchdisclosures</a>, or at the registration desk.

So, with that, Vishal's going to be taking us through a few slides, and after that we'll open up for Q&A. So, Vishal, over to you.

Vishal Sikka:

Thanks, Parag. Hi, folks. I want to spend a few minutes on what is going on, my sense of what is going on in our industry. And I refer to it as a human revolution. Those of you, most of you are not old enough to remember the green revolution that happened in India when I was young, when I was very little. There was a huge food shortage in India, but also in other countries, like Mexico and Pakistan and so forth. And there was an American scientist, Norman Borlaug, who invented a particular germ-resistant wheat seed. It was called the Mexican variety of wheat and that, coupled with modern technology, better farming techniques, and a massive educational campaign led to, basically within a generation, of India going from facing mass starvation and stuff like that to being completely food independent. And in fact, with the 'Right To Food' Act now, for every citizen and so forth.

And in many ways, the IT services industry certainly in India has grown in a way that it has been rising on the strength of the people. And the basic people-only model is one that no longer is sustainable, but there is, in my view, an imminence of kind of a human revolution that will happen in our industry, or that is already starting to happen in our industry, where just as in the green revolution, the revolution happened because technology amplified the farmers' ability to become more productive, and the yield on the crops outperformed the rise in population of these countries. Similarly in our industry, technology and software amplifying people's abilities, if it outperforms the declining downward cost pressure that we see in the industry, then we'll see a human revolution.

My sense of what is going on all around us, the atmosphere that Infosys and other services companies are operating in is that there is a very profound transformation that is happening around services. Things are becoming services. These days, and weddings you can see chandelier as a service. Airplane engines and tires and landing gears are available as a service. Everything is becoming about services. And this is being fueled by three forces, in my view. It is easy for someone to show up and talk about their own philosophy on what is going on, and of course what is going on is very, very complex and large-scale. This is a very simple abstract characterization of it, but I believe this is accurate.

Design thinking teaches us that every product or service, every innovation, has three dimensions to it - the desirability, or the end-user dimension; the feasibility, or the engineering technology dimension; and the viability, which



is the economic or the value dimension. So, on those three axes, what is going on is that the times we are in is all about a very deep end-user centricity, about becoming very close to the end user, about the availability of intelligent systems, more and more AI technology on automation, as well as computing infrastructure because of the cloud that has become available at an absolutely unprecedented price performance. And on the economic viability side, an extreme cost economic and disintermediation, meaning it has become possible to disintermediate an existing business faster than ever before.

If you look at this idea of pervasive end-user centricity, more and more of our physical experiences, or our erstwhile physical experiences, are becoming digital. You see a picture here of a car. I drive an Audi, and I have this lane assist feature, which is actually a self-driving feature. There are two features in my new Audi. One is a adaptive cruise control, and the other one is this lane assist thing. So, basically when I am on the freeway, the car drives itself completely. Every 10 seconds, if I don't touch the steering, it complains that I have my hands off the steering. It can sense that, but otherwise the car drives itself. And this is becoming -- Tesla obviously has an autopilot thing, and so forth.

We are doing a lot of work with companies like Boeing and Toyota and others in creating these kinds of technologies and in bringing those technologies at a large scale. Another dimension in which the digital world, where the atoms of our physical world have become consumed by bit, is our own bodies, in healthcare. Our bodies are becoming instrumented at an unprecedented rate, and this will actually become even faster. This idea of going to the doctor once a year and getting a health check is something that is rapidly becoming obsolete.

We invested in two companies. One is a healthcare sensor called Whoop out of Cambridge. And those guys built a professional athlete sensor that senses heart rate and blood sugar and many kinds of things like that in a very deep way. And you wonder why professional athletes -- well, the usage of technology that makes sense to professional athletes today is going to make sense to ordinary people like us over the next five years or so, so it actually is a great idea to look into some technologies like that. Speck is a small company that came out of Carnegie Mellon that makes an air quality sensor for \$200 or so that disrupts the traditional air quality sensors that are worth \$10,000. We work with companies like J&J in bringing healthcare, in turning healthcare into more connected, more digital healthcare. And of course, on the home front, connected living and intelligent infrastructure is making its way inside the houses and buildings and rooms like this conference room. And we do a lot of work there with, for example, GE or our own campuses, which are great examples of intelligent infrastructure. We have approximately 40 million square feet of campus space in India, which is all administered completely from our command center in Bangalore.

And these experiences are becoming even more digital, where the physical world is becoming more and more digitized, in shopping malls, for example, ATMs, phones. On the upper right-hand side is a picture of a bus. We have been working on digitizing our bus. In Bangalore, for example, on a typical day, Infosys employees spend 20,000 hours in a bus, and so it makes



sense to rethink the experience of being inside a bus. It's actually possible now. San Mateo County here has Wi-Fi in the buses now. This is a first step. The picture below is of a make-up space, where we can make things.

So, the times that we are in are all about a pervasive end-user centricity where technology is making its way into the end users' experience in an unprecedented manner. And it is becoming more and more possible to measure, to monitor, and to bring services at that point of digital technology going to the end-user.

Here is an example of work that we have done with GE. This is the landing gear -- this is digitally enabled landing gear. The landing gear used to have four sensors. The work that we have done together, this landing gear has something like 35 sensors. It is completely instrumented for all kinds of measurements. And with every flight, you can measure the operational efficiency, the useful life remaining, all these kinds of operations parameters, you can do simulations on the landing gear. GE has a very ambitious program to turn everything into one that has a digital trend, and this is something that we are working with them on.

Here is an example of virtual reality technology. This is our booth in Davos this year, where together with Carnegie Mellon we did some work on bringing virtual reality experiences to consumers. And this was Earth 360 display that we did. And it's quite exciting. I think that virtual reality technology will have a profound impact on the shopping experience, on education, on collaboration, on many experiences like that where it can actually be more powerful than the reality that we consume with our own senses.

The second dimension of the big shift that is happening around us is around intelligent systems and infrastructure. Here's an example of infrastructure that happened to us at Infosys. Last year in April, so 11 months ago, I launched with our Infosys Information Platform this appliance that you see on the left-hand side. This appliance is an astonishingly powerful appliance. It's one rack, so about the size of that speaker stand on your left-hand side there, if you can see, and the 42 rack unit. This thing had 1,080 CPU cores, and 22 terabytes of DRAM on it. So, it's an amazingly powerful machine. This is massively more powerful than the super-computers that we used to have 15, 20 years ago.

Just in the last 12 months, what has happened, the picture on the right-hand side is a current version of this appliance. This is actually in use at Baidu, the big search company in China. And in the last 12 months, the core density has improved. So, instead of 18 cores, we now have 22 cores on a single CPU, so there is 1,320 CPU cores on this rack. And the memory has improved by 1.5 times, so this is more than 32 terabytes of DRM that has showed up. And power consumption has improved by 10%. And the price of the machine on the right is approximately 5% less than the machine on the left with all those improvements. This has just happened in the last 11 months. So, our brains are wired to not perceive an exponential change easily, and yet Moore's Law is still continuing, it's 51 years old now. And certainly for the next eight or nine years, we see that Moore's Law will continue and produce these remarkable advances. And yet today, when I look at the industry around us, there are hundreds of millions of MIPS that



are in use and serving mainframe computers. And all these can be moved to cloud infrastructure at a radical wide performance improvement.

And similarly, intelligent systems, these racks that you see now, unlike the racks in mainframes, are not administered by people anymore, these are all automated. At a company like Google or Facebook or Alibaba, the amount of automation that shows up inside the cloud delivery centers is enormous, something like 20,000 servers are administered by a single person, whereas in the enterprise world, we are used to a single person administering maybe a handful of servers. So, there is a radical improvement that is possible because of automation.

And finally, the third dimension is the extreme cost economics and the disintermediation that is happening in the industry around us. People in every industry wonder what does Uber mean for us, what does Airbnb mean for us. And the result of these two factors, the end-user centricity and the extreme intelligence in the infrastructure and the cost economics in the infrastructure is that it becomes much easier for producers to connect with consumers much more intimately and measure what is going on, deliver value cheaply, and so forth.

And the same thing is happening, of course, in our industry. When I look at our industry, I earlier mentioned the example of the green revolution and how a similar revolution can happen in our industry. What it ends up at is this basic equation that I have here. Instead of doing a project, at the end of the day a company like Infosys does projects. We have right now 8,800 massive projects going on in the Company that break down into something like 23,500 projects.

So, a team of people is delivering a project somewhere in the world for some client. That is the root business of the Company. All these projects today, or vast majority of them, are people-only projects, and our endeavor, just as software is eating the world, as Marc Andreessen says, in every industry, software has to eat part of the services industry, as well. And we have to transform from this people-only project to a project that has people plus software, our software, people plus the Infosys software.

And when we add software into this project, the result of that is threefold. Our margin improves because the software is at a much higher margin. We're able to deliver the same project at a lower cost to the client, thereby making the project more attractive and dealing with the cost pressure that the clients are under. It also improves our costs, because we have less number of people on the project. And it improves our bandwidth so that, with the same number of people, we can do more such projects.

So, transforming our basic business model from a people-only model to people-plus-software is fundamental to the disruption that is ahead of us or that we are already in the middle of. And it is possible for us to create this virtuous cycle where we can lower our costs without sacrificing margins and still improve our bandwidth so people can do more with less for more, like Professor Marshelkar used to say. This is the essence of the transformation that we are in. Some of you might say that you have heard services companies talk about this before. Yes, they have, but I think services companies in general are not particularly good at writing software, or certainly writing software for general purpose use, like product companies



are. And the endeavor here is not to become a product company, that would completely miss the point. At a time when everything is becoming a service, why would a services company want to become a product company? The idea here is to bring productized intellectual property in service of the project to amplify the ability of people to do more with less for more. That is the basic endeavor here.

Here is an example of what we have done internally. This is from a few weeks ago. In our industry, there is this notion of a bench. I find this notion horrible. It is one of these bizarre ideas that I had to get used to, that everybody talks about bench with thousands of people, very casually in a very cavalier, oh, yes, I have 8,000 people on the bench. The total number of application developers I had at SAP when I was running the products there was smaller than the number of people I have on the bench at Infosys. It's unbelievable.

So, we started this zero bench effort back in July of last year. And as you can see, there are more than 9,000 jobs here. Actually, we took this picture, this snapshot, when the number of jobs on the marketplace exceeded the number of people on the bench. And you can see that it is an internal mechanism that we have, similar to Airbnb or something like that, to create a marketplace where job supply can be matched with job demand. And I expect that, over time, this will actually become a key model for us, going forward.

Here is an example of this little robot that we had at our booth in Davos. This is a robot made by KUKA, and KUKA's folks and our folks wrote the software together to serve beer in this booth, and it was quite entertaining for people to see a beer-serving robot in the booth of an Indian outsourcing company.

So, underneath all of this is a very basic strategy, which is to apply a dual approach. Whenever you're faced with a disruption like this, there is a need for a dual strategy, which is to renew the existing business, renew the existing systems, the existing landscapes, bring more value out of those, but in parallel, innovate in completely new ways into new areas, unprecedented areas. Arthur Koestler talked about this in his book in the 1950s, which he says a lot of this disruptive innovation and so forth, that the essence of an organization's ability to create lies in this self-consistent but habitually incompatible frame. One is a incremental innovation, incremental improvement plane, and the other is a disruptive paradigm shift plane, and these two have to come together. But, the important thing is that these two have to come together into a common fabric, otherwise you have two different companies. And the common fabric is the culture, of course. In our case, that is in particular learning, our ability to teach.

So, we've been executing on this strategy. The strategy, of course, is not only our strategy. It is generally the strategy that every company in the industry that is facing a disruption is going through. They want to achieve cost savings and operational efficiency on the one hand, and get into new businesses and new ways of reaching their consumers on the other hand. We have been executing on this over the last 18 months. We have seen some very encouraging signs of success. Early, it is still early, 18 months is not that long a period of time. But the early signs are quite encouraging and



exciting. We have been making progress on bringing automation into every one of our services. Last quarter in Q3 we saved about 1,100 people with automation, 1,100 full-time jobs. We are also bringing innovation into our existing services. This is more grassroots innovation, the incremental pink plane innovation. Our Zero Distance program has now reached 100% coverage. Zero Distance is this effort that we launched last year to bring innovation into every project, to inspire teams to not just do what they are told, to not just do what is in the statement of work, but to go beyond that and do something innovative.

And the renewal is going well, and the bulk of the growth is coming from renew and is going to continue to come from renew in the near- to mid-term. But, in parallel to that, we have been working on the new areas, and that in our case is the software-led innovation. The software of People + software, is a software that we are building. The heart of this strategy is our three AiKiDo services, the Ai - software platform, the Ki - way of capturing knowhow across client, and the design thinking bringing its way, making its way into customers.

We have been seeing tremendous success of our Infosys information platform. We have approximately 200 engagements of this now, with a little bit more than 40 clients who are live, as well as the two acquisitions that we made, Skava and Panaya. And our work on design thinking is getting into quite a good scale now. We have more than 150 clients that have done design workshops with us already, and I believe that this is a great way for us to innovate in consulting by making design thinking the centerpiece of the way that we bring consulting to our client. And all of this is led by our culture.

There's a picture of our campus in Mysore, where we teach at the largest corporate university on the planet. Infosys has possibly the best infrastructure to educate people of any company in the world. On the backs of our ability to teach people, we have trained already a little bit more than 80,000 people on design thinking. Our Al class, Al class is much longer. The design thinking class is a day long, the Al class is about three weeks long. We have already 2,000 people who have been trained on that. On the Agile, on DevOps, by the end of this calendar year we will have 100% of our employees trained on DevOps and Scrum and Agile, and so forth. And we have been working on expanding and rethinking our ecosystems. For example, the work that we have done in starting Open Al, we are one of the founders of Open Al.

So, our execution along the strategy is progressing well. I'm quite satisfied with the early progress, but it is still early, and a lot is still in front of us. So, that is, in a nutshell, our endeavor. I have 45 seconds remaining, I see. Our endeavor is to have consistent profitable growth. That has been our philosophy. We don't believe in sacrificing margins in order to grow. We are on track to get to industry-leading growth in the next financial year. We want to be a global leader in these new kinds of IT services. I believe that the times that are in front of us are times that call for a new way to deliver IT services. The world is looking for a leader in this, and I believe that we at Infosys have a shot at becoming that. And our endeavor continues to be to get to \$20 billion in revenue at 30% margin, and \$80,000 revenue per employee by the calendar year 2020.



Thank you very much.

Parag Gupta:

So, I think Vishal we've run out of time, but maybe just one quick question before we wrap up. You've seen a significant improvement in deal wins on a quarterly basis, and you've talked about a lot of the initiatives that you've been taking. Could you just give us a sense of how do you see this progressing, going forward? How has that go-to-market strategy changed?

Vishal Sikka:

The deal wins are very encouraging. Also the growth in the large accounts is quite encouraging. We have outperformed, for the first time in many years, our large account growth rate has exceeded the growth rate of the Company, which is quite encouraging. Our deal wins have improved dramatically, so we are approaching \$800 million to \$900 million a quarter in large deals. I think that is more than, or close to double what we used to do.

And so, that is quite exciting. I think going forward, the go-to-market model has to scale to bring innovation to every client, software-led innovation. That is still something, I mean, I mention encouraging numbers so far, but we need to get this to every one of our clients now. And that is our big endeavor as we look at the new financial year ahead of us. And that means that we have to bring in the expertise in software, in selling IP, and in getting to more and more outcome-based fixed-price projects so that the power of automation can benefit us, as well as the client.

Parag Gupta:

And maybe one last question. What kind of investments are you making in the Company, both organically and inorganically, to take you to the next level?

Vishal Sikka:

And our objective is consistent profitable growth, so we believe that we can achieve all of this without making too many investments. Obviously we have been making investment. See, the thing that software is on the one hand we have a 200,000 employee company, but software investments are not that large. If you look at the Panaya team, it is about 250 people, and the IAP, the platform teams, is another couple hundred people. So, these are not that large teams. We don't even want to jam more people in there because that would miss the point. You need the right kind of people building the right kind of software.

We will make acquisitions, small ones, very niche, high technology, complex technology that gives us a jump in our road forward that enables us to accelerate our journey. That is something that we are excited about. But, our expectation is that acquisitions will not be such a big deal, big part of it, but whenever we have a great opportunity, of course, we will continue to be open to that.

Parag Gupta:

Great. So, we've run out of time, but thanks a lot for sharing your thoughts, and all the best for the future.

Vishal Sikka: Thank you very much.