

## Analyst Meet 2020

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### CHAIRMAN ADDRESS: TECHNOLOGY TRENDS IN THE COVID WORLD

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### PARTICIPANTS

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**Nandan M. Nilekani**

Thank you Kavea. It is really wonderful to be talking to all of you through this virtual analyst conference. Today, I will talk about technology trends and impact of COVID.

Now just to put it in a historical context, I think up till about 2007, our technology leadership essentially came from the enterprises and not so much from consumers. But with the launch of the iPhone in 2007, followed a year later by android, the leadership of technology innovation moved to the consumer space and people started using it. Of course, with the rapid growth of smartphones, billions of smartphones and so on, led people getting their experience of technology from using this very user-friendly devices, just tapping and getting things done. So the first impact of that on the enterprise was the consumerization of user experience, because people who were using business apps found that they were very clunky, unimaginative and difficult to use, whereas they were used to this very super friendly intuitive apps on their phones. So, the first wave of the impact of the consumers on the enterprise was consumerization of apps and building new kinds of applications which were far more intuitive, user-friendly, design first and all. So, the first trend essentially was this consumerization of the user experience.

The second thing that happened was, as the smartphones took off, we finally entered arenas which had billion user platforms. People like Google and Facebook and Alibaba and all have billion user platforms be it WhatsApp, be it Chrome or android, search or whatever. This required two things. One it required people to really have very highly scalable system which were very low cost and the driver for that led to the rise of open source. Open source was already there, thanks to Linux and so on, but there was a big acceleration of open source because of the rise of the consumer internet. These companies also put many of these open source products into the public domain from their own R&D. So, many of the open source things like Hadoop, Bird and so on have actually come out of the labs of the internet companies and have been put out as open source for use. Enterprises began to realize that these open source products were highly scalable, they were cheaper to operate and therefore the second trend which happened was the adoption of open source technology in the enterprise.

The third thing which happened was as these internet giants built their capability, they realized that they could offer Computing as a Service and that's what led to the rise of the cloud. It began with Amazon again around 2006 or so followed by Microsoft Azure and followed by Google. Today that is one of the biggest trends in the world which is moving away from having in-premise computing to using the public cloud as far as possible. The initial users of the cloud were the consumer giants themselves for their own usage and then we had a class of digital first companies coming up, whether it was Netflix or Dropbox, all these companies which began natively on the cloud. And then the last two to three years, it is the enterprises adopting the cloud as regulators and other people began to become more comfortable with the use of the cloud and therefore what we are seeing now is the huge rise of cloud migration.

The fourth issue was the whole data which came out. As you had billions of consumers and you had their interaction and telemetry at every point, data became a big thing and so the rise of the big data application and particularly the rise of AI. And AI took a big leap forward with what is called as deep learning, which came about in 2012 or so, and deep learning was able to dramatically improve the accuracy of AI. Object recognition was a good example that went from very high error rate to an error rate less than human being and we are seeing that across the board. Again, these AI tools, a lot of them were in open source and enterprises started saying if you can have AI for the consumers, can you not have AI for the enterprise? So that was another trend which came out of the consumer world.

And then, as these systems became more exposed on the public internet, cyber security became a big issue. The systems being very valuable, people could either attack them for competitive reasons or for ransom or in many cases cyberattack became a part of the state sponsored attack. The first cyberattack was in Estonia in 2007 and since then we have seen cyberattacks around the world. Therefore, as systems and applications had to become more opened up to the outside world, cybersecurity started becoming very important and businesses began to realize that unless they make the systems secure, they would be very, very vulnerable to these attacks or to ransoms and that had become a big issue for everyone.

Then we had the rise of the platforms. I think what people saw when they saw the rise of Amazon and Facebook and Google, was how well they had used platform thinking and classical enterprises started saying why cannot we also build digital platforms. A lot of the companies think about platforms.

And finally, as incumbent companies began to realize that technology was changing things so much, they realized that the legacy systems were very monolithic, very in-flexible, required huge amount of support and took several months to bring changes. So, modernization of these legacy applications using the brand new concepts of agility, micro services, open source, user experience became very important.

So these are the seven trends that began approximately in 2006-2007 and last two to three years have taken the enterprise world by storm and led to the whole digital revolution as we call all of them collectively. Now these trends existed before COVID. It is not that COVID created these trends, but COVID for one, accelerated these trends because companies had no other way to function and they had to go digital, offer online services, whether it is e-commerce or whether it was food delivery or groceries or retails or health or education. Suddenly we saw an acceleration of digitization, and stuff that would have taken several years, were compressed into several months.

However, another important implication of COVID which companies began to realize is that unless they were digitally agile and unless they were state of the art, actually their business was at risk. So the realization that this digital is so important was accentuated and accelerated by the pandemic in the boards of corporations around the world. We saw that in every sector. If we look at retail, we have seen the largest number of bankruptcies of retailers who are essentially physical operators, but many large retailers who because had a very good e-commerce capability, because they could do delivery to the home, because they could do pickup at the shop or pickup on the curb side did very well. Therefore the lesson became very clear to boards around the world that digital was not just an afterthought, it was not just nice thing to have, it was fundamental and critical to the business of the future and I think that is the big impact of COVID that we have. People are woken up to the fact that if they have to have a future in any business, whether it is telecommunication, retail, financial services you name it, every business is facing the challenge and I think that is the big change that COVID has brought.

Now this change is obvious to everyone, but a lot depends on how companies who provide services in this business adapt, and there I think I want to congratulate our management team led by Salil, who in the last three years has done a dramatic reinvention of Infosys. It was not done with COVID in mind, it was not done with the assumption that something would happen, but it was done to prepare Infosys for the future. Infosys was very fortunate that when the unfortunate event of COVID happened, it was very well prepared to deal with this calamity. Whether it was working from home, whether it was new services that Infosys had introduced, which are more relevant digital services, whether it was galvanizing the sales engine, whether it was investing in learning and making sure that people have the latest skills, whether it was creating employee engagement, whether it was making Infosys agile and many other things that our management team took up. These are not small superficial reforms, these are root and branch reforms that went to the

hardware of the company and prepared it for the future. These are the reforms that were set up by excellent management team under Salil and as part of their first strategy, which you heard of in April, May of 2018 and executing on that strategy, galvanizing sales, creating a sense of alignment and purpose and that is what is really has been the heart of what is happening again. I think the Board has fully endorsed the strategy, fully endorsed the management, backed it 100% and we will provide that backing. We want to have stability, we want to have coherence, we want to have strategic alignment, we want to have a highly motivated team; and I believe all those things are in place and I think the results have started to speak for themselves.

So to summarize:

Technology trends have been allowed because of a transfer of ideas from the consumer space to the enterprise space.

We involved in the last 13 years in seven different areas whether it was cloud or open source or consumerization or data and AI.

COVID not only accelerated this implementation, but COVID also made it clear that becoming digital was an existential choice for large businesses.

And, Infosys's investment in the last three years in getting ready for the future came in very handy when this outsized calamity stuck the world.

So that is in a nutshell of where we are. I will now stop and take questions from all of you. Over to you Kavea!

### **Kavea Chavali**

Thank you so much for setting the tone for the rest of the event and most importantly we managed to gather some very interesting insights in terms of the trends or for that matter how that pandemic made other consumers, or the enterprises view that digital activation. Let us quickly now deep dive into the questions as well. We managed to receive some questions beforehand as well Nandan, so let me quickly share that with you.

The first question in fact is a common one that we received from Ankur Rudra from JP Morgan and Kunal Tayal from Bank of America. The question is, what are your next focus areas for the company, including management stability and strategy continuity. Do you think your work on overseeing strategic changes, leadership and board reconstitution process is largely done?

### **Nandan M. Nilekani**

While I say that the board reconstitution is done, we have excellent and stable management team in place and I think that is very well done; the board continues to be reconstituted and we will see how that develops. On the strategic side, I believe that the first set of strategic choices have been made and implemented, but as we look at the pandemic and as we look at the future, I think there is going to be a massive shift in the way the world is going to implement technology, and therefore, I think, the strategic transformation is still to be completed. And as I said before, I will stay as long as I require to complete my job.

### **Kavea Chavali**

Thank you Nandan for answering that question.

The next question is from Kawaljeet Saluja from Kotak Securities and very interesting question there. What are the new set of competition that IT companies need to keep a close eye on? And every crisis creates a shakeout, but it seems that COVID has not caused a new trend, but only accelerated the earlier trends, so what is your view on this?

**Nandan M. Nilekani**

I will tell you my thoughts. Not only COVID accelerated the trend, that is correct, none of the trends are new, they are all existing. It also fundamentally brought to the leadership of the world's top companies how critical digital was. I think that is an important lesson for everyone and that lesson has raised a profile of digital transformation in every boardroom and that is what I think is the bigger difference not just acceleration but a mindset change.

Also I think when we look at the landscape, we have a set of traditional competitors. But clearly we are going to see new players and we have the public scalars under the clouds who are very great partner for us, but also over time would like to have a larger part of the IT spend. But this game has always been about partners, being competitors, being collaborators – that is the way the game is played. So I do believe that we will have a new kind of marketplace of competitive scenario, but I am very confident that systems integrator like Infosys, which is able to orchestrate many diverse technologies, many diverse approaches, ultimately to bring business value to the world's great companies, this need is really more than ever before.

**Kavea Chavali**

Our next question again from Mr. Ankur Rudra from JP Morgan and the question is how do you see the impact on the opportunity for IT services firm and Infosys on a structural basis from the acceleration of digital, cloud, AI and the move towards cloud based platforms? Would this make everything more efficient and shrink the opportunities for the bespoke services as we move away from legacy?

**Nandan M. Nilekani**

It is really about what happens in our business, that at every point we bring a new level of attraction into our business and the value migrates above that level. Computer began without an assembler and then assembler was abstracted to write in PL1 or Cobalt or whatever. So, cloud has one more abstraction and which hides a lot of complexities, which allowed you to be highly scalable, you can go up and down and so on. But it does not change the need for formulating business strategic opportunities, which leverage that. That will never go away and building that and helping companies migrate from where they are to where we want to be and I think later on we will hear about Vanguard and all that. They are all examples of the challenges that companies are facing. They have these legacy systems built 40 years back on Cobalt and TIPS and DMS and IMS and all that, and they all have to go into the new world and they have to be done without impacting upon customer service. So, this transformation of companies from the old to the new is a very sophisticated exercise and cannot be abstracted easily and that is the place where I think companies like Infosys can play.

**Kavea Chavali**

Nandan we have one more question coming in from Diviya from UBS, and I think it goes back to the answer that you just shared. Could you explain what you meant by the strategic shift not yet been complete, so what is pending?

**Nandan M. Nilekani**

First, execution is pending, and execution is a big thing. The articulation of the strategy I think we are all clear about that. Execution is pending, because we are in the middle of a journey. If you believe, we are in the very early days of the cloud – in the next four to five years every major company is going to migrate most of its applications to the cloud. So that is a big thing. Second thing is the whole AI journey has just started. Today I think Infosys announced applied AI platform and the way to think of use of it is not applying AI to existing processes. It is about designing digital first, AI first processes and then amplify that with human judgement. That is a whole new thing, early days of that and that is going to be a huge trend. Also, the business model is changing, the way companies will spend on technology is changing, they are buying hardware and they are buying capacity. So, we are all in very early days and lot to be done strategically and execution to make it happen.

**Kavea Chavali**

Thank you very much Nandan. With that we come to the end of the Q&A round as well with you. Thank you so much for sharing your thoughts with the attendees.

**Nandan M. Nilekani**

Thank you. It was a great pleasure to be and I wish them all the best.