Bharat Doshi:

Chandra, before I shoot questions at you, I must tell you the process of moderation which I had to follow. We had invited questions in advance in our last reminder to the various participants and with those questions plus I see a large number of questions here put before us. I am combining questions which are of similar nature and we will not be able to give individual credit to who raised that question. But I am sure the person who asked that question will be able to follow. Plus, there will be a time limit within which we will handle the questions.

Question:

In the context of, how in the past the model followed by Japan, Korea, Southeast Asian countries, China, was manufacture for exports. That model is challenged by low global growth and competitive nationalism, tending to protectionism. Even India's IT services, earlier onshore and offshore now, is challenged by low global growth and competitive nationalism tending to protectionism. Local market is large but alternative cheap sources of China and Southeast Asia do not leave room for capacity creation. Do you see this constraint, which is now becoming prevalent in the global trade for both goods and services, as a roadblock for India's Opportunities?

Mr. N. Chandrasekaran:

Actually, I do not. Because there is no one single strategy. There are many strategies. India is at a very important point in its journey. We have tremendous export opportunity as well as we have tremendous domestic opportunity. In order to capitalise both these opportunities, we will need to ensure that we have a strategy to deliver the best quality, best product and most competitively. We have the human capital. We need to address

some of the issues that are well known for manufacturing export, like infrastructure, etc. But fundamentally, I believe, the opportunity is huge. The global focus on supply chain rebalancing and resilience only adds to that potential.

Question:

The future of manufacturing sector, in the competing environment. In your speech you covered how India with R&D, AI (artificial intelligence), etc., will be able to take the lead. Will the manufacturing sector be able to be competitive in the next 5 to 7 years?

Mr. N. Chandrasekaran:

I think the place where we have to start is; we want to be extremely competitive. We have to figure out how we become competitive, because there is technology, there is skill, there is human capital and we need to plug whatever gaps are there and become both competitive and also come up with the right products and services at best quality. I mean it's an opportunity and we just need to capture it. In order to do that, we have to put the processes in place.

Question:

50% of the population is dependent on 15% of the GDP, which is a known problem. Plus we have the problem of reverse migration which COVID has contributed. Is this the time to think of 100 smart cities or say 1000 smart cities?

Mr. N. Chandrasekaran:

I think the question is not whether it is hundred smart cities or thousand smart cities. I think what we need to have is cities, all over India, which are functioning as they are intended to. Full availability of clean water, power, good education system, access to health care. What we defined by Smart City; we just have to make sure that it is everywhere. That is why I'm saying, we have got to address the basics. The fundamentals are so important to be addressed, then every city will become a smart city. It is not that you go about trying to make one city a Super Smart City. All our cities will

get connected. Technology is there today, so we just need to make sure that every city is a functioning city, from a sustainability point of view, pollution point of view, clean water point of view, education and access to health point of view, in every dimension.

Question:

Do you see our society changing in the post pandemic world in terms of working from home, in terms of other practices and particularly what are the other underlying social changes you see in the coming decade?

Mr. N. Chandrasekaran:

I think a good question Bharat. Clearly there are trends, which are emerging post pandemic. I'll just list a few, first from an industrial point of view, a resilient supply chain, supply chains were built for efficiency and that result in concentration. In the future all supply chains have to be resilient and efficient. Second, digital everywhere. So, every business will have to adopt digital and acceleration will happen faster. This is not to say that the physical model will give way to digital. How do they coexist? What is the influence of digital in every business that will get accelerated?

Third, you talked about work from home. It is not to say that everybody will work from home but work from home will become common. We are not going to go back to the pre-pandemic period. Fourth one, travel less. I am pretty sure that you are not going to get to the travel levels that existed pre-pandemic, whether it is road travel or air travel, business travel will dramatically come down. More collaboration tools will play an important role in the functioning of companies and the society.

Fifth one, home will become the centre of consumers. So how do you bring the experience of what you offer to the consumers into their homes? So, home will become a very important place. The dining room will become important. Your entertainment room will become important. So, home will become a very important place from a consumers' experience point of view and finally, but not the least, sustainability. We

will see a tremendous acceleration towards sustainability. Both by regulations and also by demand from public at large. I think all timelines globally for migrating to a sustainable business model, whether you are running an automobile company or whether you are running a power company or whether you are running any other company. The timelines will shrink much shorter than we can predict today. So, I think there are clearly emerging trends and all these things are not bad. Many of them are big opportunities. So, we will have to think through and then see how to adapt and work on these opportunities.

Question:

One of the things which you have dealt with in your book Bridgital Nation and which has been debated, is the problem that when technology makes major changes it has an immediate effect on employment. For the next generation, what is happening may be a very good thing. But in the immediate time-frame people in their age group of 50 to 60 may suddenly find that they are very vulnerable, because they have not been retrained and nor are they required, because the workforce now required is less. We would like to hear your views about it today.

Mr. N. Chandrasekaran:

Yeah, we have addressed it at great length in our book. That is the fundamental premise. Our book is not about technology. This is about fundamentally how technology can be given to the low skilled people and empower them so that they can perform much higher levels of tasks. This is about removing the halo about technology. This is about ensuring that artificial intelligence and machine learning and cloud and IoT (internet of things) is not an elitist thing. This is how it is given to the common people so that they can perform better. We have gone at length in the health care and in education. In healthcare we have shown how new jobs will be created. How the ASHA (Accredited Social Health Activist) workers will operate at a much higher level of capability. How it will introduce jobs between the ASHA workers and the experts. And how the experts' time will be freed up. In three or four sectors we have estimated a 30 million jobs impact.

The same thing is true for agriculture. The same thing is true for judiciary. The word Bridgital is basically, how do you bridge that particular gap. How do you bring technology to help and empower the people at the lowest strata of the society, so actually it doesn't take jobs, especially in the Indian context. It creates tons of jobs at the same time addresses the access problem. See the fundamental premise is, we kind of have two problems in our country. There is lack of access in rural areas and for a vast majority of the population for basic services. And then we have lots of people who want jobs and they do not have jobs. We are trying to solve both problems separately. But we have got to solve the problem in such a way that they meet each other. So that, when providing access, you are creating the jobs. And if you want to know more, you should buy the book and read it.

Bharat Doshi:

Of course, Chandra, and I read the book twice, once when it was published and once just before this lecture. Actually, I bought two copies.

Question:

You talked about ASHA workers, particularly their experience, because they were there, you could build that bridge. Have you thought out how these bridges will be built in agriculture? And you mentioned judicial services, etc., I mean, because these are large scale activities and they should be rolled out at one go rather than sequentially.

Mr. N. Chandrasekaran:

I think the same thing can be replicated for every sector. We have done the thinking around multiple sectors. But we have done more work in healthcare on the ground, and we are continuing to do that even in the COVID time. In fact, we have created a COVID platform also. But this needs to be scaled up now, but similar thing can be done in agriculture and in judiciary. We'll see.

Question:

There are lots of questions on the new education policy and how is it consistent or inconsistent with what you have thought about in terms of the initiatives which we should be taking in the field of Education? Would you like to comment?

Mr. N. Chandrasekaran:

I have read couple of commentaries or op-eds, but I must say that I have not read the policy itself in entirety. So I think, I should reserve commenting on it. This is something that I need to spend some time on.

Question:

How cross industry digital platforms will be a key differentiator for India. How can industry collaborate to create these solutions?

Mr. N. Chandrasekaran:

I think in India we already have some very very good platforms like the Aadhar platform. Like the payment platforms, there are many. There are new health insurance platforms and many things are coming up. So the key thing is to, how do you create an architecture and the stack and provide the ambience so that people can further build solutions on it and this will happen. I think many start-ups are coming and even in this pandemic time many people are coming up with ideas, but all these things have to be done on an industrial scale. It is a big opportunity. In fact, I would say that the only way that we can solve our problems is by creating digital platforms with access to physical resources. Because we don't have the time or the capital to keep creating more and more physical infrastructures.

For example, if you are to solve the problem of healthcare only by creating another 5000 hospitals and by graduating another half a million Doctors, it is not going to happen. It will take a long time. First of all, time is not in our hands and capital is not there. So, the only way is to build digital platforms that connect with physical resources that we have, both human capital resources as well as the physical assets we have. How do you

free up capacity? And how do you provide access universally? And that's the only approach for us to take and we can solve this much faster than anybody else. And, in fact, it will be such a unique model that will get transported to other parts of the world, both developing and developed.

Question:

You began by talking about a century ago and how the community at that point worked and in this COVID scenario here and post-COVID scenario which we hope will come soon. Considering Tata and its history, how important is business involvement with communities for the resilience that the moment demands?

Mr. N. Chandrasekaran:

I think business involvement in the community is very fundamental. I think for us it happened because our founder established the group like that. I think it's being very widely recognized not only in India, but it is recognized world over. They call it by different names. Some people call it business in the community, some people call it the purpose of every business, and so I think it is a foregone thing now. Many people are signing up and you will see more and more increasing involvement of businesses in the communities. It is in the right direction, that's the right thing to do. The pandemic only accelerates such involvement.

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