



ANALYST MEET

April 23, 2018

CORPORATE PARTICIPANTS

Ravi Kumar S.

President, Deputy Chief Operating Officer

Ravi Kumar S.

Let me just set the context of Scaling Digital. The endowment of Infosys is to cater to the global 2000 large corporations who are constantly looking to stay relevant in their businesses. In every 3 to 4 years there is a tech wave which kind of evolves and it provides opportunities to keep them differentiated with the peers. The current technology wave, the digital technology wave as they call it, is much deeper, much broader, and long-lasting, because it is long-lasting, much broader and much deeper, it kind of disrupts the business model, the operating models and the underlying technologies of large corporations. So the opportunities are unprecedented, and the challenges are unprecedented. In my view that poses a set of transformational changes for our client as well as for ourselves. In many ways, if large corporations, today, have to scale digital, they have to actually cope up with new age players, who are competing with large corporations now, and that's the big difference. These new age players are evolving themselves in a very big way, they continuously, constantly evolve themselves with new age technologies. We need to digitize the core, we need to energize the core, and we need to infuse digital into the core. Most times all these large corporations think driving a good experience will be good enough to compete with new age players, but, unless you actually digitize the core, you really can't amplify experience, you really can't create an alternate front. By creating an alternate front and actually trying to cope up with the new age players, you have to digitize the core to get there. That's the reason why scaling Digital is very important.

What does Digitizing the Core mean? It actually means modernizing the legacy systems, moving workloads to the cloud, opening up the functionality to new age applications on the front-end by actually creating micro services and a variety of opportunities in digitizing the core. To amplify this process and to actually scale this process we have to actually start repurposing client's landscapes, we have to repurpose talents. So, in many ways a lot of our clients today are asking us, you should not just be a partner for us; you should actually navigate us through this journey. When you have to navigate, you have to allow them to be on the driver seat and continue to hold the hands and turn this journey through. This essentially means you also have to repurpose their talent pools, and to repurpose their talent pools, you have to scale your capabilities not just for yourself but for your client as well and for your client's personnel. That's the journey we are in and that's the reason why we think scaling digital is far more important to amplify the experience and scaling digital actually means digitizing the core.

The strength of Infosys or the genome of Infosys is to identify these new digital technologies apply them to the businesses and, constantly try evolving them, from three horizons as we call it, from horizon 3, 2 and 1. So, we look at the disruptive technologies which can actually be sensed much ahead of our peers, incubate them, scale them and industrialize them and repeat this cycle on a constant basis as these new technologies come in. So, the pentagon, which Salil spoke about is not a static one, it's a dynamic one. It constantly feeds itself from new age technologies which we can sense much ahead of our peers. We incubate and scale them and then we industrialize those capabilities. So, we have invested into the Infosys Center for Advance Technologies, an emerging technologies engine, which looks at sensing these capabilities much ahead of others and actually applies it to businesses. That's the investment we have made in the last few quarters and will continue to make in the quarters to come.

I will give one or two examples of new age technologies, which today are not a part of that pentagon but are going to evolve into that pentagon in a way. Augmented reality, virtual reality, block chain technologies, 3D printing and editing manufacturing. Today it's not a part of a monetizable engine, but it's going to be actually coming in as a technology which will disrupt supply chains. Software-defined networks, just an examples and all of these actually sit in emerging technologies and in a constant way we are looking at evolving them and applying them to businesses and monetizing them through the new age digital horizontal services.

These digital services, as I said are so disruptive in nature and not only are they disrupting client businesses, they are disrupting our own business models. So, we are constantly refactoring our talents. Pravin is going to talk about it. We are applying automation and AI on our Horizon-1 traditional services. Narry is going to talk about it. We are repurposing and refactoring talents, we are localizing talents. A lot of times, this life cycles of project execution are very agile in nature and because they are agile in nature you have to localize talents and you have to get closer to client clusters.

Finally, for the sake of simplicity we have actually encapsulated all these services in 5 distinctive categories.

Our services today, no longer are sold on a solo basis. They are actually sold in ecosystems, and because they are sold in ecosystems, we have to evolve our ecosystems. That is the transformation that we are going through to cope up with opportunities in the market and in the digital space.

Let's look at the first tower, "Experience". Experience is in the heart of the new digital wave. It is a very pervasive capability, cutting across every other aspect of large corporations. It cuts across the other four pillars which we spoke about in the pentagon. Our approach to experience is very different from our peers. Most of our peers look at experience through the lens of creative agencies. All talent which is built around experience is done out of creative agencies. Our endeavor on experience is a hybrid model, a combination of actually creating a string of pearls with inorganic acquisitions which Salil spoke about on specific areas of experience, whether it is design, strategy user experience and creative. However, the crux of what we are trying to do on experience is from talent which we are actually tapping in from design schools. We are tapping in talents from design schools, which has never been done before. We are almost creating 1,000+ digital designers and orienting them on systems and platforms, on strategy and organizations, on privacy and security, on artifacts and physical objects, and to me that's going to give us the scale of digital, that is going to give us the scale of experience, which will drive the differentiation in the market. Experience is so broadly used, it is so pervasive across industries. Most times when we look at experience we think it's only for Financial Services, it's probably for Retail, often consumerized industries. Experience is used across the spectrum and it's used across the core and it's actually used across every aspect of businesses.

I will give couple of examples. One of them, Karmesh is going to cover. It is a company called Adecco, which is in staffing. It is Uberizing its model, disintermediating its model. It's actually creating a virtual work place for a variable capacity for work places of the future, and Karmesh is going to speak more details about it.

The second one is of an agri-chemical company, which is creating a farmer experience on android, iOS and windows devices. It is moving from selling a product to selling an experience and this is something we are working with them. You will find this to be so pervasive across the industries. We acquired a company, couple of quarters ago, called Brilliant Basics, in the area of user experience. We are just about to close a transaction at WONGDOODY, which is a creative ad agency. We would take creative talents and actually infuse it as a beachhead capability from the design schools, which we are trying to infuse talent out. We have signed up with a reputed design school to create design talent across the world. We are investing heavily into studios across the world where we can get our customers to co-create experience along with us for new age functionalities which they are building in their organizations.

"Insights". Data is one of the biggest opportunities in the market in the world of digital. I am not going to spend a lot of time explaining about the power of data. What I am really going to talk about is how we are differentiating in the market place. We are creating a length of self-service on data. Most of the time, the process of creating insights is often outsourced. We do think we can

train the user to drive insights in a self-service model. We can create a cultural mindset of looking at the art of possibilities, we are running a campaign called 100X which is the possibility which you can do with data. We are creating a citizen data scientist, as we call it, where data sciences are evolved and driven self-service from key users in large corporations. We are embedding AI and ML (artificial intelligence and machine learning) into data. I will give a couple of examples of what we are doing there. This is a massive opportunity, talent refactoring is a big play of actually transitioning talent from old legacy talent pools to new age analytic platforms. I will give two examples.

We have a solution called HawkEye. HawkEye looks at blind spots on known-unknowns and unknown-unknowns for large stakeholders, who are looking at KPIs (key performance indicators) at the end of a period. Most of the time, when we look at key performance indicators at the end of a period, we would actually get known-unknowns and unknown-unknowns stopping us to meet those KPIs. An example, there is a large FMCG company which is working with us and it wants to close its financial books in 5 to 6 days. To close the books, every time they get to the end point, they realize that there are a set of known-unknowns which come and hit them, and they can't close the books. For 16 quarters in a row, we have actually got them to close the books, we applied HawkEye. HawkEye is actually built on the Infosys information platform on Opensource. The idea is to actually create probes so that you could artificially simulate a closing real-time, every time you do a transaction, and therefore you actually kill the issue right at the source rather than taking it to the end.

This is one of the very interesting examples that I can talk about. This is kind of the power of data and the power of pervasive use of data not just in consumer industries but in any industry. We are working with an aviation company, building flight plans for drones. Drones today are manned or unmanned. You would actually visualize, as drones go main stream, there is a flight plans. Today flight plans are actually done in a much regulated structured approval process with the regulatory authorities. We are almost democratizing that entire process by leveraging data and creating an approval process where you can download a drone flight plan, so that you could fly your own drones. We are doing this live with a customer, so, a variety of interesting opportunities in sights. This is the art of possibilities. We do think, our data scientist will become trainer for users who will use this effectively and who would actually take data in their own hands and build insights around it.

“Accelerate”. As Salil spoke, this is the biggest opportunity, energizing the core, which mean modernizing large legacy systems, transitioning workloads into the clouds. Enterprise workloads have never been transitioned to the clouds in the extent which is being done now. Digital workloads are always on the clouds, but enterprise workloads are moving into the cloud in a big way. The ability to actually move applications into the cloud, the ability to actually open your applications by creating micro services, there are variety of examples in this process.

I will give one or two examples to make this point. We are working with large partnerships. We are working on a model of building solutions and IP on top of existing cloud ecosystems like Azure, AWS, Google, IBM, and Oracle and the idea is to create these appliances which can actually be re-purposed in a very smart way in a short period of time. One of the things you would be astonished to know that the embrace of Opensource is much lower in large corporations, unlike in new age companies. So, we have a journey. We have a campaign running on driving Opensource embrace, Agile DevOps embrace, in large corporations. I will give couple of examples which will be interesting enough to think about. Large CPG companies today are having consumer data which is prone for regulators to actually come and penalize if they actually expose it. All large CPG companies today are actually asking us to transition workloads into the cloud not because they want to change CAPEX to OPEX, but because they actually want to secure their workloads to ensure that it is not susceptible to a hack.

I have a large number of customers who are speaking about taking their customer service, automating it and driving better experience. Reimagining the business process and our business process outsourcing organization, we have renamed because Business Process Management is a big opportunity. That is all in the space of Accelerate. There is a bank which has come to us, which has been working with us on mortgage. They want us to take over the mortgage process and run for them. Se are digitizing the process, we are automating the process and we are creating real-time feeders into credit agencies. To do so, it's no longer going to be a business process management opportunity, it's going to be a digital opportunity for us and that's the lens on which we are looking at this space.

“Innovate”. The value of digital is in the interface of physical and digital objects and Engineering Services team and many other services which have interface to physical, like the internet of things, are working on a unique set of initiatives to drive platform driven physical-to-digital interfaces. One of the biggest opportunities in the market is autonomous technologies. Everybody thinks autonomous technology is going to be used in driverless cars, but the reality is, autonomous technology will be used in every industry which has a physical interface. Quite a few manufacturers are asking us to drive digitization in their factories. Autonomous technologies are going to be a big capability in mining and farming and industries which have physical interface. We are building capabilities in autonomous technologies. We are re-skilling for this use and we are signing up with industry platforms and industry networks to build future of production and embrace Industry 4.0.

There is one very interesting example here, which I can talk about. There is a diabetic's equipment manufacturer, which works with us, and they are actually creating a data lake, between the sensor, the pump and the demographic data as well as the data of what you eat and everything else. They are creating a data lake, and through the data lake we are driving inferences which can feed back to the pump for regulating the insulin in the pump. So it's actually changing the company from being a manufacturer of diabetic equipment or a measuring sugar levels to a solutions company, which is a diabetes management company. This is an unusual opportunity. The point I am making here is opportunities of this kind are so pervasive across multiple industries beyond the traditional ones.

“Assure”. This is the last but one of the most important fillers in the process. If we go through the digital journey in the way we have just described, if we have digitized the core, the surface we are exposing to attack is going to be much more, therefore, our ability to secure the core is important. All security officers today are no longer looking at digital frontends to secure, they are actually looking at securing their entire core, for them to make a difference, for them to actually allow to run the business. We are transitioning security into a model of security as a service. We are investing into network of cyber defense centers, so that we could drive security as an outcome, and could sell security as an outcome and allow customers to actually focus on the digital agendas while we take care of the risks. There is a whole lot of investments that we are doing. We have Infosys cyber security platform, which is powered by AI and automation, and it is powered by a platform play to secure the landscape. We did speak about ecosystems, traditionally, our ecosystems were all about enterprise partners, in the traditional technology world that is where it was. We are kind of moving to start-up ecosystems where we are ourselves investing, we are going into a model of build, buy, partner and develop ourselves and we are investing into startup ecosystems, we are signing up on industry groups, we are going into new age partners, new-age partners which are driven on new age technologies and large ecosystems which are thriving on companies like Infosys to move from a B2C to a B2B model. All these partners, today, are looking at large corporations as an interface to drive their technology value and the only way it will happen is using companies like Infosys to conduit it through, so if we have to go through this process, there is a ton of investment we are making on the ecosystems on go-to-market and solutioning and commercially signing up contracts which will help our customers to get better value out of this. So

that is the story of digital in a short window. The idea is to at least give you a feel of what the opportunities are and how we are actually preparing ourselves.

I will get Karmesh to talk about some of the examples in digital to give you more deeper sense of how the opportunities are panning out for us.



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Karmesh Vaswani
EVP, Head CRL

Karmesh Vaswani

Good Afternoon, Ladies and Gentlemen and thank you for making it here on a warm sunny day. After what Salil and Ravi just covered, what I will try and do is walk you through some real life case studies where we are putting the digital pentagon into play. The first case study we will look at is one of the world leader in networking, infrastructure, and computing space. This is a Fortune 100 company. This provides all computing infrastructure, products, software and services to a vast array of enterprise clients and the case study we are going to look at over here is in the context of experience, which is one of the themes in the pentagon that we discussed. This is a company which has been a disruptor in its industry. It has pretty much done most of the innovations in their industry, in the way networks are set up, in the way data centers are operated, in the way cyber security services are provided, in the way workplace collaboration is provided. As technology continues to evolve, they have discovered or they have pioneered more innovation and launched more production services. They have also been doing a number of acquisitions in different markets. Their scale and reach is very global. But as they have grown, their supply chain has become very complex.

The proliferation of product services, the proliferation of channels, they have 70,000 plus channel partners who are serviced from 400 global sites. They have about 5000 plus agents in their customer operation center who handle everything from the time a sales order is booked to processing that order to scheduling that order to tracking the fulfillment, to ensuring that the cash is collected from the client to even providing after sales service. This process with the scale and complexity and heterogeneity of their business had become quite complex over the years. Now, this is a client where Infosys was also a BPM service provider being one of the three strategic partners providing order to cash service. The client was facing significant challenges in the marketplace. Their experience was getting constraint, customers were complaining of long wait times, and the agent productivity was a big bottleneck. The client was actually thinking about doing a major overhaul of the entire supply chain capabilities. The concern was that it would be a very capital intensive journey and it would be very disruptive to their business.

Infosys digital team in a cross functional mode coming with supply chain experience, coming with user experience, and coming with experience in AI and ML technology spent about four to five weeks examining this problem in detail. They qualified the problem, they tried to segment it, and they came up with a very unique approach, an approach which was self-funding which did not require the client to do major capital investment, which did not require the client to disrupt operations in a global scale catering to 70,000 plus channel partners. What the Infosys teams did over a period of four months is design an orchestration layer which could look at all the complexities in the medium and low complexity order and automate that. In this orchestration layer, we exploited machine learning, we exploited natural language processing, we exploited text analytics and we even exploited the ability to treat an agent as a persona so that the agent's experience in the past, the agent's skills in the past can be inventorized and the right call can be routed to the right agent especially when it is a complex call. So what happened was 95% of the cases which were coming to this global customer operation center which had 5000 plus agents, 95% of those orders have now got fully automated. 80% savings has happened in the cost of running these operations. More importantly this has significantly enhanced the value being provided by the agent to the customer and this is resulting in better conversation, it is resulting in more high value-added cases being handled by the agent, and overall improving the productivity. So this is an example of how bringing together a cross section of digital technology, abstracting the knowledge of a process where we had been providing operation, blending the two, we were able to create a disruption for a company which itself is a disruptive player in its industry.

I will move to another case study and this is in the context of insight. This is a client who is a world leader in the sports, fashion goods, and apparel industry. They are an iconic brand, omnipresent in most developed and developing economies. Their aspiration was that E-commerce in their industry helps them to scale faster, helps them to expand reach, but most importantly helps them to improve

profitability. E-commerce was growing at the same rate as other players in their industry. They were looking at ways and means to accelerate E-commerce growth. So we partnered with this client to shape two big strategic initiatives. The first one was called consumer genome, where we said that every interaction that any brand of this organization has with any consumer and with any events that the company is holding, any communication that the company is doing, any transaction that is happening, every such interaction is valuable data. This data was dispersed across different marketing organizations across different countries. The first thing that we did was create a global consumer data lake. On top of this data lay lake, we then started segmenting and abstracting intelligent insight, which were classified under different gene and that is what we call as the consumer gene pool. This could be the persona of the consumer, this could be the socioeconomic profile of the consumer, this could be the affinity of the consumer to a specific sports category or sports content, this could be the reaction of the consumer to different newsletter communication, this could be the commerce behavior of the consumer. All of these attributes amass to close to about 5000 plus attributes. This became an effort where every day we were ingesting 35 million such data points and from 35 million such data points, to abstract this gene pool was quite a complex task. Here again we wrote a set of machine learning algorithm, which would help us not only do the segmentation classification, but also learn from every segmentation experience.

The next step we did was to look at all the category managers and see that every category manager could have access to the right insight at the right time. This helped improve the performance of the category managers who were able to do targeted marketing. This industry is characterized by mass marketing and the challenges in any mass marketing setup is that ROI is generally not good. But here what we were able to do over a period of 18 months was amass a gene pool for 100 million plus consumers across 50 countries with up to 5000 attributes. This became the foundation for driving any consumer marketing initiative, whether it was a campaign or an offer. So, as you see here the time to segment and run a campaign came down to 30 minutes. This used to take two to three weeks with complex workflows involving agencies, brand team, finance team, controllers coming together. That has come down to 30 minutes. More importantly what this has done this has really created for the consumers a very premium, a very personalized, and a very contextualized interaction.

The second initiative we did was on the fulfillment side. We said that when E-commerce orders are coming in, these orders are not just being delivered in the way an Amazon or a Flipkart delivers. These have to be delivered through a network of 5000 plus branded retail stores, 20,000 plus wholesale fed stores, and about 120,000 plus stores which are in different form factors. The challenge was that all these outlets are on disparate systems and processes. How do you create a capability which will give a unified view of inventory in terms of availability, visibility, and allocation to a consumer? So that is again something where we created a layer which we call as Omni channel order management capability, which would reside centrally, but could also reside within the stores providing a mobile kiosk to the consumer where consumers could come and look at the entire aisle of products even though the store was physically stocking few products. This became another big competitive lever, which is helped this client of ours significantly improve the economics of E-commerce, significantly reduce the cost of mark downs and thereby enhance the consumer experience.

So these two initiatives, consumer genome and the Omni channel order management capability is what we term as a foundation built with insight. If you go back to the Pentagon we talked about, in both these cases, we have exploited the power of insight with advanced digital technology to make an impact on the top line and bottom line performance of this client.

I will move to the third case. Five years back this was not a Fortune 1000 company. Today, this is in the Fortune 500 category. The logistics industry in both Americas and Europe is an industry which is extremely competitive. This industry is very capital intensive, is significant part of the GDP, is very labor-intensive and one can say that it is a fairly commoditized industry because margins tend to be in lower single digit for most of the big players. This client of ours which is a start-up company came with the mindset that we want to be a technology first company in this industry. We will do everything which is in

full contrast to what the successful players have done. So we will go asset light. We will not get labor-intensive, we will not look at creating capacity on all the routes in the world. So they created a set of these boundary conditions and they invited us saying we have this boundary condition, can you come and strategize with us to create a logistics company which is a technology company at heart. We pulled together a set of digital experts some coming with experience in different modes of logistics industry, some coming with deep statistical background and having worked in complex machine learning, AI algorithm, and developing pricing engines, some coming with experience of what Ravi talked about of cultivating applications which are very empathetic to the end-user and coming from a humanities background.

Over a period of six months, we shaped a set of strategy, a set of design blueprint, developed a set of minimal viable products in agile mode, tested them in select markets, ran a set of Hackathon's to improvise those and finally launched the number of new offerings. These were in the form of a digital marketplace for both carriers and shipper. These were in the form of mobile apps which is having the functionality of Alexa for drivers in these truck and for carriers. There was set of capabilities around pricing optimization, lane assignments, load optimization, brokerage optimization, and what has happened now is that this company is one of the fastest growing logistics company. Their profitability is improving quarter after quarter and in a few quarters they would be one of the big disruptive forces to be tracked in this industry. So this is an example of a start-up company who had the vision to scale at an unprecedented level and we used the power of Innovate to shape this journey. This slide would give you a sense of the kind of improvements that have been achieved, load profitability has gone up by 20% and this is quite an interesting statistic because where we are first targeting is to go in the spot load market, which tend to be more profitable but spot load markets are also having a high number of intermediaries. So we are driving extreme disintermediation in that segment. Three months within the launch of the marketplace, we were able to acquire five very critical size customers for this company and from other statistics on the performance of this engagement.

The next case that I will talk about is in the context of the last two segments of the digital pentagon which is Accelerate and Assure. This company is Telstra, which is one of the largest Australian and Asia-Pacific headquartered company in telecommunication space. They play in all segments of telecommunication from fixed lines, mobile lines, Internet, broadband, to pay-TV. Their aspiration was that they want to transform themselves from being a Telco to a Tech company modeled around some of the successful companies in Silicon Valley. They view was that the telecom industry will go through commoditization and if one has to differentiate, one has to create very compelling connected world experiences both for consumers as well as enterprises. We had been working with this client for the last 19 years and across our teams, there was very good intricate knowledge of their applications, their data, their infrastructure, their business processes. The client leadership and our leadership got together and said that if we really want to become a tech company, we cannot work in the conventional ways of working where there are different application run teams, application build teams, and infrastructure teams. We have to model ourselves in the way the fine companies operate, the way Google operates or the way Amazon operates. So the construct has now changed, where there are about 100 teams, each team has about eight to nine members, they are cross functional, they are self-sufficient, they do integrated DevOps, they work in agile mode. They focus on the consumer and customer insights, which come from the marketing team. They work with the business facing team on these consumer customer insights. They take the insights which have been prioritized for new intervention, they work together shaping minimal viable products, they do rounds of prototyping and they are self-sufficient. So this has significantly improved the speed with which new initiatives can be conceptualized, validated in a fail pass, fail easy to succeed fast, succeed long mode. What happened is that over the last three to four quarters, we have now reached the stage where 98% of new requirements that were coming in which earlier required complex workflows between a development team, a run team, an integration competency group, a testing group, 98% of the requirements are now delivered on demand. Earlier, they would have lead times of two plus months in getting delivered. So changing the way the organization thinks, strategizes, and works as a new age digital tech company is really bringing agility into the execution of their strategy. The deployment cycles have reduced from

three months to three weeks and a number of new differentiated capabilities are getting launched at a very ferocious pace. This is the mushrooming partnership, this is a partnership which is becoming a benchmark in the industry of how enterprises in traditional industries need to look at in becoming more agile digital.

The next case that I will talk about is a company called Adecco. This is again in the context of experience. Adecco is a company which is headquartered in Switzerland, it is a \$23 billion company, it is well known for providing staffing services. On any given day, they help deploy up to 700,000 blue-collar as well as white-collar professionals for a variety of roles those could be technicians, those could be chefs in restaurants, those could be service engineers, those could be operators in a retail store, those could be field engineers for a utility company. The traditional model worked with the format of branch offices, job listing board, contracts being signed and was a fairly established value chain built over the years. They being the market leaders. But they said that, "Look! We need to rapidly disrupt our business and we need to be the ones who disrupt our operating model before somebody else does to us." They invited us. They asked us will you help shape this operating model, we volunteered to do that, we spent a few weeks in understanding their current business model, in shaping the whole process. And then in collaborative team we got into Design Thinking sessions to say how do we uberize your industry? And then what followed was really magical. In about 24 weeks what was a concept on paper the user experience being drawn on postage and on hand-drawn flip charts was converted into a very high-level strategy into a design worked and integrated on Agile DevOps mode. In 24 weeks we were able to launch for one market a fully functional platform. This platform has been very elegantly scaling up in the top 4 markets of this client. It is really creating a differentiation in the market place. More importantly, it is now giving access to a segment of customers who were earlier not accessible for this company because they operated with a certain threshold of customers they would cater to. So suddenly a number of small-medium enterprises who would never think of approaching a staffing company are beginning to now approach Adia. I would encourage you to look up the site of Adia. You could look up adia.co.uk or adia.co.ch, these are the countries where it has been launched and it is really creating a disruption in this industry. So with that ladies and gentlemen, I was trying to bring to life the strategy that Salil talked about, the way we are converting that strategy into digital architecture execution capability.

With that I will conclude. I will call upon Nari to go the next section of Energize the Core. Thank you.
