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Session 2 by Arun Ramu

Arun

I head the testing and validation services unit. Just a brief background. I have about 23 years of experience, of about 13 years with the Tata Infotech and about 5 years with Trident software and I have been here with Infosys for nearly more than 5 years now. A quick introduction of the IVS Solutions Group. We have been in the business from about early 2001 and we provide third party validation services which basically means that we are testing softwares which are delivered to the customers and after the initial delivery is done and we don't take it from the development teams. The way it works is that we are a third party certifier which means that we take the software from the customer directly and test it and give back. We do not talk to the development teams whether it is Infosys development teams or a third-party development team. We don't talk to them. So, we try to keep it as unbiased as possible. There was a question some time in the middle of there somebody said as how much the business do you do third-party. It is 100%. All the business that we do is 100%. In terms of clientele, we work in all the different geos as well as all the different verticals. We do service every vertical that Infosys has today and we work in every continent where Infosys works in. Resource pool-wise, we have a mix of validation experts, people who know how we do very good testing, rigorous testing, optimized testing, testing that will ensure that there is zero defect in the market. We also have business domain specialist people who can actually talk to the business people and understand what needs to be tested and how much need to be tested. Simply put, my team actually looks at software from the outside in and not inside out like developers do which means that we want to make sure that it is ready for business and not necessarily what if it was quoted on or what MIS are giving and things like that. So our aim is to make sure that it will work when it is used in business and to do that we definitely need people with good business domain. We will talk a little bit more about that. And of course technology specialists, when you especially do a large enterprise application kind of testing, we also need to know where it can fail whether it is going to be the network that is going to fail, the platform that is going to fail, the software, the bugs and so on and so forth. Those are the 3 basic streams of people that we have in our team.

To ensure that this team is always up to it speed, we also do have the IVS Academy where we train up to 500 people every quarter. Not all 500 people are from our team. Probably 100 to 150 is from the testing team whereas the rest of the people are actually from projects teams and ADM teams and they do their own testing in the alien projects. So, one of the reasons why we had to put the Academy in place is the fact that testing is a new activity that is happening now a days, a new business activity that is happening now a days. Prior to 2000, there was very little of that happening in the enterprise application space. They used to do testing in the product phase but applications were never really requested sufficiently at that point in time. And that meant that no body had more than 4 or 5 years of experience. Given that kind of situation, we now have to train everyone that comes on board. In terms of the kinds of services and solutions that we offer, we offer everything from consulting because for a lot of customers saying that I need to do testing but I am not really sure how to do that. That is the way in terms of what processes to be put in place, what kind of policies and services, what kind of SLA, what kind of platforms, what kind of people that we need in, and so on. So, we do a lot of that, not a lot, but we do significant amounts of consulting in that space. The main thing we do, the biggest chunk that we do is business process validation which means that we take an application and make sure that it is good for the business to work with. Enterprise performance testing is another one that is going pretty high. It is moving up very quickly. To put it simply, it is mainly for applications which have huge number of users or huge number of transactions and to make sure that it will perform under any peak load if that comes through. The fourth one is testing Centers of Excellence. This is the model actually that we work in, more than the service. This is a model which means that we do not work too much in these projects mode. These are annuity models where you send out 40, 50, 70 people to a customer and that number stays for the entire year and any testing needs to be done throughout the year they will do, that team, the team rotates and ensures that everything, the pipeline is taken care of. And finally of course, the test automation frameworks and solutions. We build frameworks around our existing test tools as well as our own solutions in automation. We will talk about that a little bit more.

Participant

Arun

I will never know that. Let us say for the sake of taking it, let us say I am doing for Hindustan Level and Hindustan Lever has seven vendors submitting codes. I am on the other side. I have no idea because Hindustan Level comes in the middle, they are customers feeding in codes from that side. They will look at it for the first time and say, yeah it is very good and then hand it over to me. I have no idea where it is coming from, but I know, we have done vendors. I mean Infosys software as well as other vendor software but I do not know which one is which one. Basically funda is we do not capture that data, where it is coming from.

This is just absolutely an estimate because there is absolutely no real figures in the market. It is just to give you an idea of what it could look like in terms of the size of the market. We have taken just the IT services market for development and integration. If you really take the entire IT services market, it is \$600 billion market. I am looking at 2006 share, not \$200 billion, it is about three times this size. The testing services, we have taken an estimate of 22% simply because for enterprise applications, 22% to 30% is typically the range of testing that is done within the budget of the project. So, if you take that then you are down to 46.4 in terms of 2007 and we have just said, again an estimate of 10% of that would actually get outsourced to testing service providers and so it is close to \$5 billion just by that. So, if you just up that number to \$ 600 billion, it goes up three times. So, the market is huge basically, it is wide open. It is huge and all the Indian players put together are close to a \$1 billion probably in testing. So that still leaves a huge amount of market space to be looked at. Again this is an estimate, this is from I talk to people in industry and take it out and it is not really anything significant from the analysts. In terms of the unit itself, the metrics - we have over 80 enterprise customers for looking verticals as well as about 20 product customers. We have about 80% of repeat business, we have about 2,700 people in the team and the onsite effort that we typically employ is 20%. This graph here is actually the percentage of Infosys revenues that testing is making. It is around 6.2% today in Q1 and it has been quite a fast growth simply because what you do not see here is the Infosys growth in topline. If you add both of them together, these numbers are pretty significant.

In terms of the split, we work with every industry vertical and as you can see from that, BCM which is the Banking and Capital Markets is the biggest chunk we work with and communication service providers, then comes retail, high tech, insurance and so on. We work with every vertical like I mentioned earlier.

In terms of geography, we are very U.S. centric, something that we are trying to change quite significantly. If I remember right, the Infosys numbers are 30% and 70% in U.S. and 25% - 75%. We expect U.K. and Europe and Australia to pick up quite heavily this year.

In terms of differentiators, one of the significant things that we have noticed is that being a new market, people have not yet really developed a thought-leadership there and I think it is already getting commoditized. So we are looking at very quickly moving towards a more high value game where we can bring in differentiations through one of course is the certification capability building. Lot of the market requires serious domain capability unless you are able to really just as a trading software, unless you are as good as a trader, you cannot really test a software. So, those are the kind of things that we try to do. We make sure that the teams do have that level of domain skill, not the entire team, probably 5% to 10% of the team having that is sufficient but we do need to have that and we are pushing that very heavily. As you can see that these are all sample certifications that we do to ensure that in different verticals we are actually competent to talk to the users of that vertical and understand their needs. We are also doing a lot of certification in the testing, basic testing space itself, including with Mercury and such tool vendors. We do mostly with Mercury because Mercury does have the largest chunk of the market and then of course we also do project management certification and things like that.

The other area that we have been pushing very hard is the solutions space. We have been creating solutions of our own which will ensure that we can bring in higher levels of productivity and hence we can also charge the premium on top of the work that we do. The ACCORD solution is a backend testing capability solution which enhances existing automation tools to ensure that the backend gets tested more rigorously. What happens in software is that or at least the test tool automation is that, today most of them test the front-end, through the Graphical User Interface and do not do the job of doing data base testing. So, we have created that ACCORD solution to ensure that happens. The second one is LIGHTHOUSE which automates the script generation. Lot of tools allow the script to be entered and then executes it and so on and automates the testing but nothing helps you create or generate test scripts itself. You have to do it manually. And we are trying to do that. The third thing is a very interesting one which is called the Reusable Test Accelerator for business process testing. What we found is that. what we have noticed and what we use today is the fact that every similar business will always have the same kind of transactions. Like, if you take SOX, it does have 27 transactions. So, you can almost write all the test cases, test scenarios before you even take it to the customer. That shortens your life cycle and the customer is

very happy to see that you already know what you are doing. Given that it is like a solution package to them then and we can do a fixed price certification of SOX, if required. So, we have been doing that for different things, whether it is retail merchandising, I mean the Retek product or RFID, different things, different packages that you can create and go in to the market and do a very good job of doing a very short requirement spec study before we get into the project itself. Then, of course, Enterprise Performance Management Solutions, where we are talking to customers and doing fixed price, improvement of performance of their applications and so on.

So the trends in the market today in terms of competition. Many of the Indian IT vendors have just started with testing services. There are 3-5 of them including us who have been there for the last four to five years but the rest of them are just about picking up at this point in time. However, the testing markets face is quite large. We saw the numbers and the competition is not yet that very intense. There are a few large deals where we have intense competition but by and large it is quite an open field at this point.

Participant

Arun

Mostly the offshore ones. It depends on the areas. Cognizant would be good at retail and finance because that is the focus they are in. Wipro would be good in technology R&D type of testing and so on and so forth. Each one has their niche. The others really, we do not really consider them in competition simply because they don't even have a separate testing division, nor do they have a separate career path in testing and so on. Given that situation, they are not that very serious about the testing business yet. On the customers side, large enterprises are taking testing absolutely seriously. It is becoming business critical that you do testing very well before you actually put it out there. A simple example would be the Delta Airlines example where about six months to eight months ago, they keep re-releasing their website for doing reservations and things like that and some body to test it well enough and you could get a ticket from New York to London and back for \$20 and they found out after five hours which really killed them. Those kinds of bugs are the ones that are really killing the customers today and hence they are willing to pump in money on the testing side. Given the fact, again, I mean by saying pump in money, it is more like pump-in effort and keep the money the same. So they are saying, do it offshore because it is the expense down but you can still do a lot of good testing.

Our current largest customers are in 3 digits. Some of them are 100 plus and some of them are 200 plus and so on. That is the sizes of the enterprise applications that we are looking at and we test for them globally which means that the advantage that they have with us is that we are a one-window shop and we standardize all the testing tools, all the processes and things like and every release of every software gets through us which means that we give the same standardized outputs _____.

The other significant is that industry analysts like the Gartner's and the AMRs and so on, have now started writing about testing. Till about two years ago, they were not even writing about it. They just started two years back, when the first few papers came out. Unfortunately, they did not have enough data on the market to say what size it is and so on and so forth but they still are doing some levels of relative ranking and so on and so forth about companies. The good part of that is it is just being done which is a significant business if they are going to classify it as a separate area to write papers on. In terms of automation and reusable frameworks, this is where we think it will start growing bigger and that is also the best way to fight the resource requirements. Earlier days, three years ago, four years ago, you would be asked for 20 to 40 people teams to start with, saying that give me a team of 30 people or 40 people to start the project and today it has gone up all the way to give me 100 plus from day one. So they will give you two months may be to ramp up 100. So it is a really tough job. So unless you have good frameworks in place which can reduce the number of people requirements, it gets real a little tough to catch up in that way.

So, to summarize markets opportunities are getting much higher and offshore is becoming predominant as we mentioned. Resourcing, will be one of the major constraints going forward. Because we have our own IVS Academy and things like that we are definitely ahead of the curve. Since testing started in 2001, there is no body with more than 5 years of real experience in testing. So, you do need people who can be trained and so on and so forth and that is basically why we set up the IVS academy last year. Like I mentioned we do 500 people a quarter from there. Commoditized services, because market is so huge and because people are willing to really pour things in there, people are quickly commoditizing it unfortunately. It would have been a premium market, but people are still pushing it downwards. We are combating that with high-value solutions and go-to-market solutions.

Participant

Arun

Chinese, in this curve they are behind. They don't even realize that this is a market. Of course we do have our Chinese employees working at testing. I mean, we do employ Chinese employees who are interested in testing. In terms of influencing our community, we find it is very important to influence the community simply because there have been no earliest standards or benchmarks in testing community and it is up to us to really set them. So, we do a lot of that stuff. We do it through thought leadership and papers in instructing conferences. We also have what we call 'Leaders of Change Forums'. We are actually bringing in some of our best customers together and getting them to discuss what are the best practices, how we should be doing it, and so on and so forth because even they for themselves have never done testing at such a large scale before. We also have these university programs and workshops where we actually try and teach as well as talk to students from Karnataka engineering colleges and B.Sc. colleges and tell them what a career path can be in testing and how quickly the growth is and so on and so forth. That makes sure that at least when they are coming out, they know at least where to go for that career path.

I will quickly run through a case study. I will let you read most of that. But this is to do with a wealth management company and a global investment bank. These are the people who have about more than 200 people from our team working for them. Before we went in there, they used to use hundreds of sub-contractors which meant that each guy was coming from a different company, levels of commitments were different, they were not even worrying about putting the processing placed, they were not even looking at standardizing the tool and so on and so forth. So, they had a huge set of problems that were there and they still wanted to increase that. They said, we have close to 100 sub-contractors, we know that going forward will need 200 plus and so on and we do not to go this haphazard way. So they came to us and asked us how we could help them and we actually set up their Test Center of Excellence which gives you a managed testing service which basically means that it is a shared service. They come to us as a single window operation. We do the testing for them and hand it over. And they don't necessarily need to work with everyone of the 200 plus employees that we have on the floor. We also ensure that we get standardization of tools, processes and so on and there is a regular cost saving attached to that. I will skip the first two and go to the business benefits at the bottom. What we said to them directly was \$3.5 million. When we say directly, it means that just by taking over the projects that the other people were running and bringing them offshore, we could save them \$3.5 million in that. Also, there is a potential of saving 5% to 10% annually on efficiency gains which means that given the fact that you are doing better and better testing, your software is coming out with almost zero defect which means that we do not need to maintain it any more and we can actually get rid of the maintenance scheme. So that ensures that you would save 5% to 10%. So what it really does is obviously do not get rid of the maintenance scheme, they put new pieces into the product and so you come up with a more advanced product every time and beat your competition in that and that's how they do that.

Last one is less than 1% defect leakage by virtue of high quality independent software testing. So, what they are saying here is that it is absolutely a squeaky clean product that comes out of the end of the whole thing. That is how we have been doing it and these customers have been with us for the last two years and we expect them to continue on. I will take any questions.

Participant

Arun

It is not different. We do take the same engineers. But we had expanded to take in any non-engineer as well. We take any body with maths-based degree, B.Sc., B.Com., whatever at the fresher level. We also take people at the higher level when they had experience in say bank which makes significant difference to our domain knowledge.

Participant

Arun

We get our requirements from the users. Of course we do take the requirement spec that comes, but we do not rely on that completely. We actually talk to users as well saying tell us how you want to see it.

Participant

Arun

Sometimes yeah, with the clients, right.

Participant

Arun

Billing-wise, there are three levels of service here. One level is the manual service which is manual testing which means that we actually go in and test every screen and everything, that is the manual testing. In that case, we charge as much as the ADM pricing. Then the next level is either you are doing performance testing, automated testing, some of which need more technology or more tools knowledge, that we charge obviously more and then you have a consulting fees in which we charge a lot more.

Participant

Arun

You see consulting is something we definitely do, but it is restricted testing consultancy.

Participant

_____ is it possible to give to an idea of how the _____

Arun

Yeah, I would say consulting does not go more than 5%, business consulting kind of thing. Obviously it is high priced service but not too much of it. Then you have automation which takes over about 15% and the rest of it would be in the manual testing space. So these are the three broad methods. Business process testing would be 80%.

Participant

_____ are there any penalties or liabilities_____

Arun

Not at this point, there are no penalties. They do not even ask for serious SLAs at this point. The day most people because it is rather nascent. So people are very happy if you can give them zero defect software. They do not care more than that but apart from that we always deliver on schedule, we always deliver above 98% defect-free software. No body has faulted us yet.

Participant

You have about 80 enterprise clients in this. How is the possibility of exploring through Infosys having greater than 400? Secondly, how does the complexity of the project evolve over a period of time because you mentioned that it is at quite a nascent stage. And given that you know with the period of time, the complexity would increase. You

have already seen it coming in. How do you see in terms of pricing which would come to you with more complex projects?

Arun

Okay. See the 80 clients are all existing Infosys clients. Some of them of course we started them as testing but that would not do more than three customers. All the others started with ADM as it is and the market is huge enough within this 80 that we have not had to go outside yet. But as the time goes past, we will hit the other 400.

Participant

What is the wallet share in testing and if you were to draw that if you are a vendor, another Indian vendor is there, what percentage you have gone off which would be coming.

Arun

I actually do not have that kind of data with me. Simply because again there is no open data available, nobody apart from Infosys declares testing revenues. So its tough to figure

Participant

I mean on average deal sizes, how would it evolve over a period of 3 years.

Arun

See basically my bigger customers which should be probably the top 15% to 20% would be at least 100 people plus, annually.

She had a second question which was complexity of projects. See actually when I said nascent, I mean the market is nascent, not the project. Projects are equally complex. So, we are working with multiple platforms, multiple softwares and whether it is performance, security, there is a lot of stuff there. So complexity-wise we might start adding new things like every time data warehousing comes up, we add data warehousing testing certificate or if there is an RFID thing, we will add RFID testing specifically. But otherwise it does not change. Pricing-wise some of that stuff, especially with solution or a fixed price, then we try to keep it as a premium but otherwise, in any case we do not go below ADM price.

Participant

How do you actually measure the efficiency of your testing services and is the billing rate linked to the efficiency part.

Arun

No, see the basic thing is like are there any SLAs, service level agreements and all that. There is no real agreement with the customer. The only thing they ask for is please test it and give it right on schedule. So it is more of a schedule and effort kind of thing, not so much saying that I want to see it so much defect-free because if you finally look at it we are not the people creating the defect, we are finding the defect. So, finding efficiency is what we look at. The customer has not come back on it very significantly. Simply because they have probably seen software which has been 60% to 70% defect-free and we are making it almost 98% defect free. So, that gap itself is so huge that they find it very wonderful to have such software. Today it is not there but it probably will come sometime.

Participant

You said Cognizant is strong in retail and Wipro is strong in technology. How do you differentiate in this segment?

Arun

The basic thing is that again when I say strong, I am saying in their own range of things. We do also have a very strong financial background, I means in terms of what we have been doing, a lot of our business comes from financial services and we do have people who understand the domain extremely well. It is not a difficult

competition against them. We do have a better brand, we do have better domain skills, we do have better scale, all put together. Given the whole thing, we have done pretty Ok with Cognizant. Similarly, with Wipro side. Wipro, the tendency would be that they would look at commoditizing and lowering pricing and things like that whereas we look at all the time looking at that is the higher level solutions that we can provide to the customer. So it is a different ball game.

Participant

If you look at your revenue streams, which portion or which part of those are subject to highest commoditization than others or do you think that every___ ?

Arun

Now I have to go back a little bit in history. Before 2000, the reputation of a tester was such that you would always bill a tester lower than the ADM prices. Today, we do not do that. We say that these guys are specialized guys and they will be above the number. Given that situation, there itself you have a level of rate which is fixed at that number. If the customer says I want dirt-cheap, then we will drop the contact or drop the proposal. So in general, pricing today has not been much of an issue.

Participant

Whenever you have negotiated a price increase, what has that involved in terms of effort?

Arun

In testing it is easier to start pushing the right stuff simply because you are able to prove that pre-our coming in and doing the testing for you, you are having a business impact of x dollars in the market saying that you lose some of your business. Now it is much much much lesser because you are almost 100% defect-free.

Okay, thank you.