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Topic : Independent Validation Services – Session 1

Speaker : Arun Ramu

Hi Everybody. I will start, there are people coming in, I think we can start probably given the fact that we have got short time, I will start. My name is Arun Ramu, I am Vice President here at Infosys and I head the validation testing services which I which take you through today. I have about 22 plus years of experience in the IT business. I started off career with Tata _____ then, now Tata Infotech, and then moved on to Trigent Software which is a start up company, which is still running in Bangalore and then after 5 years there, I moved on to Infosys. So I have been in Infosys for about 5 years.

In terms of the Independent Validation Services itself, let me quickly explain what it is and then go into the details of how it is doing and things like that.

In terms of introduction, Independent Validation Services is basic third party testing service and we provide testing solutions to clients across the globe. By that I would like to explain a little bit more. Basically testing has in earlier days, before 2000, has always been something that the development teams did and things like that. And once the development teams finished with the testing and product was ready to be released, they would actually send it out to the users to accept. User would then test it once more and then put on a release. However, what has happened off late is that the software today is now used as the front-end of business which means that you have all your business process exposed to the outside parties and which means that if they did find any defects, then thousands of them find it. I mean, just to give you a very simple example if you are going to buy T-Shirts on a website, you could screw up on the credit card thing, you could screw up on the color, any of those things, it could just hang and you lose your money, you lose the order, all this kind of things will happen and that if it happens once, can obviously happen to hundreds of people because they will all be logging to the same website and you will lose all those hundred customers at the same time and they will also tell another hundreds of people not to go there and buy. So it is hurting the top line of companies today to not test the software and so we have offered these services saying that we will come in and do a rigorous user acceptance type of testing which means that we will come in down the cap of the user and not of the programmer or anything, look at the software from outside in and then use our training in being rigorous testers to actually add value and make sure that software goes out almost 100% defect free kind of thing.

As far as what we do, we act as partners and process advisors for clients' global Quality Assurance needs. By this what we mean is that we are actually looking at doing complete enterprise wide testing for customers which means that they do come to us and ask us as to how much of testing is required, what needs to be set up, how much infrastructure do we need to set up and things like that. So, all of that is part of what we offer. I will go through some of that a little bit in detail little further down.

We also provide a significant career path in testing. Now, that means that we don't have people who are developers turn testers overnight who are waiting to run back and become coders tomorrow morning. That has been the basic bane of the testers, the problem has been that most people did not do good testing because they were waiting to go back into programming. Now we have set of guys who are skilled in testing and are appraised only in testing and hence the value what they bring to the table is lot more.

The resource pool includes people like validation experts, business domain specialists. Like I said we are doing user kind of testing. We are not doing the technology testing so much as we are doing the user testing which means that my folks need to know the business. They need to be as good as the user in the business. So we have lot of business domain specialists and the technology specialists are also there. These people cater to specialized testing that is done, typically being performance testing where you actually need to know how the performance of a software works, meaning that if you are doing a transaction will it take 2 seconds, will it take 15 seconds, or

whatever. For that you do need people who know the technology, who know the architecture, the networks and things like that and are able to piece all that together.

So that is the kind of resource pool that we have, and in terms of the expertise that we have and the engagements that we have, we get into business process validation of software solutions. This is the biggest chunk of the business where we are doing business process validation, which means that we take softwares which are already developed and almost ready to go into production, do a pre-production testing and make sure that all business transactions are correct, ensure that none of them will fail when they go out there in the market.

The other thing that we also do is test process and strategy consulting. This is though a smaller piece of our business, it does have a large impact in the sense that at this point we are talking normally to Vice Presidents of QA or CIOs who want to put testing as a good process in place.

Enterprise performance testing solutions, like I said performance testing is a large part of any highly **networked** software and this is another thing that we do.

Setting up of testing Centers of Excellence for clients. Now, this is getting more predominant now a days where customers are saying, please go ahead and set up something for me, let us, you take 25 people and do all my testing for me, those kind of testing Centers of Excellence where we actually build skill around the customer and knowledge management and all that thing that goes along with that and more or less dedicated sort of people to do this testing.

Then finally, of course we also do lot of test automation solutions. Test automation helps a lot in productivity improvement during testing and allow you to do a lot more testing of the software that you would normally not do, so we do a lot of that also where we automate testing solutions as we go forward.

In terms of clientele, I have already mentioned, we do serve lot of global majors in our banking and financial services industry, the insurance, healthcare, manufacturing, retail, and telecom. I will just touch into all that a little bit but in general we work across the globe. We are a horizontal, so we work across the globe and we work in all the verticals that Infosys works in.

In terms of the market opportunity, this incidentally is a very very new area of business simply because before the internet the business did not really exist. What you saw before the internet was that the MIS folks where the ones who used the software, they wrote it, they tested it, and they used it. It never really hit the top line of the company. So given that situation, it was not a problem that if there were bugs they would fix it and _____ it would be okay. So given that nobody really worried so much about testing. But once the internet really started coming in and people started having business transactions over the net, what started happening was that any defect would affect multiple thousands of users and hence testing became, and this is application enterprise testing. The product testing market of course always existed, products like let us say MS Word or anything like that. So somebody has to test these products before they went out into the market, that existed. But enterprise application testing has been a very very low key activity and now it has started popping up. Given that situation there is no real data available in the market as to the size of the market and things like that. So we are now trying to extrapolate and put a business plan in place saying that based on these numbers, saying that this is what it looks like. What I get to hear is that from the Gartner estimates that IT services market would be in the range of, let us say if you take 2006, would be in the range of \$200 billion, out of which as they say testing services is typically about 25%. So that would bring it down \$50 billion and I am saying that even if we take 10% of that as outsourced testing, it would be still \$5 billion. So there is no real number available today but I would think that this would be a middle of the road kind of number that we can look at and say that that is where the market will go.

In terms of the way we are split in revenues, it is almost in the same ratio as Infosys overall revenues where the banking and capital markets is the highest, retail is next, communication service providers and so on and so forth.

Now to tell you frankly, we are about a 5 year old service and hence we have not probably got into every one of the verticals as deeply enough. But banking and capital markets being the quickest one to get into because they are the ones who are most worried about their defects in the market. We got in there quickly and hence the large chunk of business there.

In terms of spread geographically, again we started most of our services in the US and hence today it is a large one but if you look at UK and Europe, I think it is catching up quickly. It is about almost 10% there and I think the other areas will also grow, the APAC market, the European, UK markets would grow.

In terms of the metrics of the unit itself, we have over 45 enterprise wide customers. Most of these are existing customers, there is only one customer where they wanted to start relationship with Infosys on testing but all the others have been existing customers, so we have been working with them. There are over 20 product-based companies who are working with us as well. Repeat business has been very good. One of the reasons that it is slightly on a lower side is because it is a new service and we are trying to add more and more new customers. Over 2,250 employees on the last count. And the onsite effort is decent at about 25%. And if you look at the growth, which is of course available in all our reports, that has been rather good growth I would say.

In terms of what are the differentiators we really bring to the market, one is the superior skills. Like I mentioned we do have people who have career path in testing, which means that they are not worried to get out of that whole business. So, for them we have 6 weeks of intensive training. I have been in different companies and I know that training on testing has never really been a big deal in most companies. So we have made sure that we are ensuring that people understand what testing is before they actually get into the market.

We have labs across 3 Development Centers and various test tools. And as I mentioned testing tools are something that is catching on and we are investing a lot of money in that.

We also have a specialized performance testing team who are trained very specifically on how to pick performance errors and things like that. It is a rather involved activity.

In terms of certification, like I said, we are domain experts and we would like to be equal to our customers in different domains. So we are actually trying to ensure that our people do get domain certified and these are some of the certifications that are mentioned - life insurance, investment administration officer, the Bankers in Scotland, National Stock Exchange and so on. We also have of course certifications in testing itself. These are all international certifications and most of our customers really price these things.

In terms of the alliances, we have Golden Solution Partnership with Mercury. Mercury happens to be the almost 60% market shareholder in the testing tools market, automated testing tools and we do have a rather good relationship with them and we are hoping to get more out of that.

In terms of solutions like I said, one is of course Center of Excellence, which is a managed testing solution basically but we also have testing solutions as the industry changes and as there are new industry requirements and things like that, like the Basel II and the SOX validations. These are only for the financial industry, there are others for the other industries which we also look at.

In terms of trends in the testing market, there are a lot of tool vendors but Mercury by far is front-runner. In fact IBM is approximately 20% of the market, while Mercury is 60%. So it is a huge leap between the first and the second there and we do have a rather clean relationship with Mercury at this point.

In terms of competition, like I said, the market is rather new. Testing has before 2000 been something that people said you did only if you did not know how to program. So given that situation, most people thought testing was a bad job or a bad work and nobody wanted to get into that. So one of the things that has happened as an outcome of that is that there are not too many testers in the market and even if we do, there are not too many people willing to take up testing. The good point of that for us is the fact that most people are finding that it is easy to offshore testing because nobody wants to do it anyway. And on one side the business really requires it and it is a high-end business critical activity, on the other hand nobody wants to do it and the third part is the fact that you want to reduce your expenses too, so you want to offshore it again. So all that put together our market looks good based on that.

Competition wise, there are few of my offshore competitors who are there in the market. But not too many of them there at this point yet. Most of course do not understand the enterprise application market, most of them are still chasing the body shopping tester across the board kind of thing, as well as most of them are still stuck in the product testing market which is actually typically a low margin type of business. So given that situation I think we are in a good shape as far as competition is concerned.

So from our view, I just want to put a few things. One of the things is that we have found that reaching the CXO is extremely easy with testing, the reason being that you are actually saving them a lot of face value in public. Basically, I mean, I would like to give you example. If you look at the strategy table, every quarter the CEO, CFO, CIO, all of them get together and see that the new strategy, how do we implement it and typically the implementation comes out to be in the IT sphere saying that, okay, let us have a new product and let us put it online kind of thing. And there are lot of times when we come back the next quarter, the CIO is the one who is told

that I could not deliver the product, or the product went out, it was faulty and things like that, so anytime there is a strategic problem with that, it is again the CIO is the one who gets really hit. And comparing with this when you have 98% to 100% defect-free software there is no problem. Apart from that what also happens is that since there is no bugs in the software, there is no maintenance required. So he starts saving all those wallets and finally the CIO becomes the good guy in the whole thing. The advantage is that if you have the same software, adding enhancements to that, what happens is that you spend a much lesser time actually fitting the enhancements in, as well as lesser time testing it and so on. And if you really add it up with automation, which is the last word at the bottom, you are also speeding it up. Not only are you being speedier, you are also being more productive and so on and so forth. So that is one thing and with the total cost of ownership is what I was just mentioning that you save the maintenance dollars, you save call centers because there is no bugs in the system and so on and so forth. So, all of that is basically a lot of saving which the CIO normally is able to give back to the company and hence really value add.

In terms of our challenges and how we looked at it, resourcing has been a problem simply because like I said, nobody wanted to be a tester so there are no real good testers out there in the market and those that are there, they are already probably picked up. So we have started what we call the IVS University where we actually train people regularly and we have a dedicated set of people doing the training and so on. We also look at alternate talent pools and make sure that we don't miss the people out there in the industry or from the BSc, B.Com, that target space who understand business processes better than what the engineers do. So let us if you want to do a banking testing, obviously if you have a banker doing a testing it would be better than engineering doing the testing because he understands the business process and he can provide more value to the whole thing. So, on both sides, we take engineers and train them in domain, and we take domain experts and train them in testing. So we make sure that we have both sides of the coin.

In terms of commoditization, it is very easy to commoditize testing. You can just say, I need 10 testers, please send them to me. But we make sure that we actually are providing customers a much higher end value solution which means that we come in and ask them what their business problems are and not so much as how many testers you want, what do you want to do and things like that. So we make sure that we are always talking to senior members of the CIOs team.

Go-to-market with tool vendors is another thing that we are going with. We are trying and making sure that we add to the tools to our solutions. Tools have been more or less very expensive, especially Mercury ones. So the only way to make people accept tools and actually give high productivity in that is to make sure that we actually go to market with tool vendors.

And then another thing that we are doing is, again, the fact that testing is rather new, we are trying to increase our community in terms of top leadership, in terms of even colleges, universities, and workshops and programs like that. So we do a lot of that as well.

A quick idea as to end-to-end system integration case study. Basically this is a Fortune-500 customer who had taken up business process re-engineering in a very very large way and he had to make sure that the efficient flow of the products from the suppliers to the customers and also wanted to reduce each transaction cost as we went by. The total spend was about \$400 million, out of which IT was about \$100 million. So, if we **look at** issues:

- Client's first foray into re-engineering. They have never done it before. They had a lot of legacy systems before that.
- They did not have bandwidth or any specific skills to do any complex testing. This is real large one. If you look at it, it is a \$400 million project, which means that new hardware, new software and everything had to integrate and work at the same time, and the customer is really cutting over from his old legacy system to this new system, and if something went wrong, his whole business was down the drain. This was the core application that was there.
- Again, it involved hundred plus integration points where different systems and applications talk to each other.
- Stringent and inflexible timelines were actually driven by the client's commitment because they already told the markets what is going to happen.

So when we set the objectives, we set it out to certify the readiness of the integrated system to business users from an IT standpoint and an alignment to business requirements. And to provide confidence to the business and application design prior to commencement of the testing itself.

So engagement, the way we went about is we proposed a multi-layered strategy. We actually said that we will work right from the beginning to the project to the end of the project. We took over the entire program in terms of

testing. Formal workshops with business and application developments teams were conducted to review the test scenarios and things like that to making sure right upfront we were actually cleaning up the software before it even was written. And finally of course we did a lot of optimization because when you are having so many pieces coming together, you could test and test and test, and it will be a never ending thing, so somebody had to take a decision on what are the business critical testing that we had to do and what are the things that we can, not do at all and so on.

So the value add that we actually brought to customer was early detection aiding in business design track. We did pickup a lot of design bugs which meant that right in the beginning of the project itself we could avoid a lot of rework in the projects and things like that. Basically this is kind of benefits delivered where direct cost saving of over \$350,000, as well as an elapse time of 8 weeks because we planned it that way, and once you actually plan all those things and execute it that way, what happened was that there was a reduction in User Acceptance Testing by about 2 weeks, so basically about 10 weeks of savings in terms of time lines and everything else, and the project actually went on schedule on time. So what we did was delivered higher confidence of the solution by the fact that we could show them the bugs had been already removed much earlier in the cycle before we even came down the production. So that was basically what we did on that.

I will take any questions.

Question and Answer session

Male participant

Could you just elaborate a bit more on the addressable market, you said I think about \$5 billion. What is the current size of the global market right now? Who are the biggest players, what do you think is the share of the MNCs like Accenture and IBM, etc.? Are they doing this stuff or rather what is the size of this market?

Arun Ramu

Like I said, a lot of them had _____ from the viewpoint that they haven't started building a career path or a special testing team within their teams to take care of this market. They are still, most of them are, in my opinion, is that they have got mental block of seeing testing as something not worth doing. It is a piece of thing, that kind of activity, and they haven't made the change, the way the people are using software to run their business anymore. So, given that situation I don't think they are doing much of it. They do it only incidentally as a part of a project or something like that but not as a special service.

Male participant

What about the margins?

Arun Ramu

We make better margins, yes, as a new service we make sure that, see, one thing is that on this one we are satisfying end user business more than we are satisfying existing IT people. So wherever we go in we actually go in where we are saying that we will be at ADM or above and that is how we sell it. So it automatically has better margins. Plus, there are two other services, the performance testing and the consulting that we do, both are at much higher rates than the normal testing.

Male participant

The reality is that the lot of the software in the world is known not to work as expected, and this is also a business protection and _____ and from that point of view this really has a lot of profit margin because over a period of time as we get established it becomes a very strategic service.

Arun Ramu

It does become very strategic service that every customer that we do even one project with certainly wants to do a lot more and they do see the value of that. Because it is very quick to see that every quarter we are having releases, suddenly you see that next quarter we don't have to actually stay back and stay overnight for three days, it is working very smoothly and that actually adds a lot of value because apart from the strategic table I was talking

about, on the other side the CIO also has to manage the people that are working on this task and who have been asked not to go home for three days if something goes wrong. Suddenly everybody can go home, that is a very huge plus point.

Male participant

One question I had was, we said 45 customers common, in the sense on the enterprise side, how much of the work is also common, in the sense you know solutions work done by Infosys and then tested in the.....

Arun Ramu

That I don't really have a clear breakup of that I will tell you why. Because once we get into most customers, for first time it is a project. After that what happens is that the project becomes _____ let us do it for all the projects, so we become a test center where we have let us say 20-25 people for one customer doing all projects. So then I don't know which one is the Infosys project and which one is not, they just become a quality brick at that point and everything that comes through the production has to get through us.

Male participant

This leads to the next question, I was just wondering, you know, in terms of contracts the kind of client engagements that we have, are these more project based shorter duration....

Arun Ramu

It becomes a separate contract, it has nothing to do with the development contract.

Male participant

So it gets signed as a services contract after that and it is managed independently _____. Just one more, any contractual liabilities, you know, given that you are testing and it goes to market....

Arun Ramu

No, not at this point. Are you liable for the _____, no it is not. Typically, people have been very happy that they would get so much out of the testing and nobody had really come to the point saying now that we have putting it out, I want a guarantee.

Male participant

Arun, could be say that rates are comparable to development work.

Arun Ramu

Equal to better.

Male participant

So in that case margins would be significantly higher because here we are 75% offshore, _____ significantly higher.

Arun Ramu

Yeah, this is much.... Go ahead..

Male participant

And second thing is that in application development, after development do you see a steady stream of maintenance work _____

Arun Ramu

It does come, like I said, see that happens, I will give you an example of my earlier customer. He has been with us for four years and he still continues to be there. Typically they started with two projects and once they liked the quality of the work and the quality of the software that is going out, they said please set up a team of 15 people, and we have three people onsite and the rest 12 people offshore and then they send us any applications coming through. So there have been maintenance in all these applications or new releases also, both, they did a pipeline management saying that we need so many releases in the year and hence we need 15 people and whenever we wanted we added a spike and so on.

Male participant

And could you give us an idea in terms of the number of people or the size of the largest client so that we can get an idea of how big an engagement could be?

Arun Ramu

It is changing. I still do have a customer, again, for the last four years who said but as we have been growing along, today the largest size would probably be 170 odd for one customer. And what is happening as we progress and go forward is not just enterprise wide, we are saying global enterprise wide. So those 170 people are actually servicing everybody for that customer across the globe. So it has slowly expands to the point where we are saying that anything that I develop anywhere in the world and its also a way to consolidate the standard, they can come back and tell us all my applications should pass this particular user interface standard, they should all look like this, some of those kind of things or the performance has to be at this level. So all that automatically is in a place they can actually put it now.

Male participant

_____ for IT development, the idea is that it will be error free, bug free and things like that, now since Infosys itself is doing that part, the other is third party, projects are coming both internal as well as external. External projects are they coming from the vendors, I mean....

Arun Ramu

Through the customer. We are always reporting to either a user group head or a quality group head. And all projects, even Infosys ones comes through them. We don't directly take it.

Male participant

Okay sir. As a customer, is _____ higher in this....

Arun Ramu

Yes, but that is something that we are doing anyway, we are doing User Acceptance Testing with out people. They are not testers. They didn't really like doing testing as they were not skilled at it, all that stuff put together, they will not do a good job of that. So now what he is doing is, he is using the same budget and saying _____ and if you do it from offshore, its cheaper

Male participant

How many people are engaged from your side..?

Arun Ramu

About 2,250