

Infosys Technologies Limited
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Topic : Independent Validation Services – Session 2

Speaker : Arun Ramu

Good afternoon everybody. My name is Arun Ramu, I head the Independent Validation Services in Infosys. I will take you through our services today and hopefully we can have some question and answers after that.

Just to give you my background, basically I have about 22 years of experience and have been with TATA Infotech to start with for 13 years and then moved on to a start up called Trigent Software out of Bangalore for another 5, and then move on to Infosys, I have been with Infosys for about 5 years now and most of that, about 4-1/2 of that has been with this team.

Just to give a quick background of what IVS is all about, Independent Validation Services, what we do is provide third party testing solutions to clients. What that means is that in the pre-IVS, era we probably did most of the work from a requirement all the way to design to system testing and then deliver it to the customer. Now this is a solution which is beyond that point, beyond that point in the life cycle which means that we are more in the user acceptance space and we test and certify it for the customer whether that software is okay to go to production or not okay to go production and that kind of stuff.

We act as trusted partners and oblige to our client's global QA needs. What that basically means is that we are looking at helping customers set up quality groups themselves and operate them across the globe and ____ further down.

We provide a career path in testing and we think this is extremely important for the entire community because we have got a clear career path in testing what is happening is that most people are coming in as one of us and we have been asked to test for 3 months and then go away and so we didn't pick up any skills nor are we competitive in testing. So what is happening is that that kind of testing which we also did, I mean Infosys used to also do before we set up IVS, is in a way the reason why we set it up, because it was not working out, people really didn't give their 110% on testing because they were always running back to JAVA, C++ or something like that. So that was one thing that we found that was extremely important in being able to provide good testing services. So we now have a full career path in testing and resource pool intrigues people like validation experts which is basically our testing folks; business domain specialists. Like I mentioned we are on the user acceptance testing phase and that means that we need to know the business, we need to know how the things the run and actually bring in domain experts to do that; and technology specialists. Technology specialists from the view point that things like performance testing, security testing and things like that which need technology skills in network architecture and things like that, are also part of my team.

The validation expertise is found across numerous engagements in this area which most of them and the biggest of them being the business process evaluation for software solutions, which means that we get into a customer, understand the business processes and validate that the IT solution is up to that mark on the business process and things like that, and it wont fail. Most of it is of course done manually but there are other ____.

The second type of service solution that we provide is in terms of test process and strategy consulting which means that typically lot of our customers are saying we have never done testing before, we don't know how to really do it, can you help us, can you come in and tell us what to do, how many people to set up, do you need infrastructure, do you need labs and those kind of stuff. So we come in and we do that consulting and KT as well. And there are others who are half way through there saying that the we have done a few things but can you come and tell us whether we are doing it right, can you check our process, can you check our background and things like that. So that is a test process which we are doing in consulting.

Another thing is enterprise performance testing solution which is in terms of making sure that solutions are scalable, solutions are up to the performance level. To put it simply is the transaction happening within the ___ that you said you will make it happen. So that kind of stuff is performance testing. You have to do a lot of architecture tuning, database tuning and things like that as a part of that. So that is a solution that we provide.

Setting up Test Centers of Excellence. This is getting to be more and more prevalent now a days where the customer is saying you did project, you did two projects, I liked what you did. Now please come and ensure that all my software, before it goes into production is certified by you. So we typically set up teams of 20-30 people to ensure that they become a quality gate to the customer and we can do that.

The last one of course here on this list is we test automation solution where we automate solutions. See one of things is that when we are testing we are already at the end of the cycle and customers are saying do it quickly, do it quickly and so on and one of the ways to do that is to automate most of the testing so that what you can probably do in 1 day or 2 days you can probably do in 2 hours and that is the achievement there, and we do a lot of that as well.

Since we are horizontal across the globe, we do work with all the verticals in insurance, we also work across the globe at Infosys. So we have teams across the globe in all verticals right through.

Now there is no real, since this has been a rather recent event, since about 2000 odd when internet starting really being used for business processes and things like that, and this(audio break)

..... testing is typically 25%, so we take that number, that is about \$ 50 billion, and I am saying Infosys ___ even if you take 10% as the outsourced portion of that huge \$ 50 billion number, we have at least \$ 5 billion available to attack as a market, and this again in my view point is probably on the low side, I mean not looking at the medium number.

In terms of how we are split in verticals, it is more or less the same as the Infosys vertical split across the different industries. Banking and capital markets has been the largest, retail, communication service provider and things like that. However, I also need to say that we started the banking and capital market space. So most of our business does come out of that because of that. Other businesses are catching up things like resource and energy and things like that are also picking up very quickly.

Again having started most of the business in US, the chunk of the business is there. And UK and Europe put together is only 10% and growing as we go forward.

In terms of the unit matrix, we have over 45 enterprise customers and about 20 product based customers. We are actually enterprise customer versus product customers, the product customers have always existed before and Infosys was also doing a lot of product testing before, what is new is the enterprise customers and so on.

We have a repeat business, we have got 80%, one of the reasons also being that we are very quickly growing and that has an effect on that number. Overall, we are about 2,250 employees, and the onsite percentage of the effort is 25%.

In terms of revenue, you can see that we have grown quite rapidly and we continue to do so as we go forward.

Now what is it that really makes us win in this market? We have like I said one of the key things that we have picked up is the fact that we need to have good skills in the market. The reason for the skill levels being a little low in the market today is because before 2000 what used to happen is that applications were being used typically by MIS for internal purposes, like inventory control or something like that and it never really did affect the market, meaning that your top line did not get affected by what happened in the inventory software I would say. Right? So given that situation, testing has always been low key at that point of that time. Now that everything or everybody's business processes are moving to the internet, what is happening is that every defect is visible to the customer, so when that happens we start losing customers. Simplest example would be if you kind of buy let us say a product Levi jeans on the website and the website for whatever reason fails, whether it is too slow for you, does not come back even after few minutes or it grabs your credit card number and does not give you a acknowledgement or your order comes after about 7 months, right, all put together you don't have to be working with that system anymore. So given that situation people are getting very worried because it is hitting their top line. Not only do you want go back and buy it you probably tell another 10 people don't go buy there. So you are actually a lot more business that you can see. So given that the testing of these applications, the enterprise wide applications, has become extremely critical, business critical, and lot of people are keen on getting it done right. Now what has happened is

that, again pre 2000 since testing was not a big deal nobody bothered to do testing, so we by the time become good at testing and hence the skill levels are very low. Even the perception is very low actually saying that you got to test a new problem. But all that has changed post 2000, so we have to bridge that gap, so another thing that we do is that we have 6 weeks of intensive training on purely testing, both fresh entrants and lateral entrants and we have labs in three development center so far. We will be having more as we go across with various tools and things like that where you could practice all your stuff. We also have a specialized performance testing team who is trained in architectures and in network and things like that, so all these things make sure that our skills are much higher than the average test person in the field.

The other thing like I mentioned is that we are also required to be domain savvy, so we do a lot of certification in the industry. Like for example here, the life insurance one, the investment administration, the bankers in Scotland, national stock exchange things like that. This is so that our customers understand that our folks are aware of their business and able to talk to them at the same level. ___ litigation and testing itself, because again that is another need that customers have expressed.

Another way we differentiate is by having alliances. Today we are having alliances with Mercury, we have golden solutions partner and Mercury by the way is the about 58.8% market shareholder for the testing tools market. They are the biggest forerunner, in fact the second one is IBM and they are just about 20% of the market. In terms of solutions, the ___ that we do, we try to give them high-end solutions and it is in the areas of test, centers of excellence, which I just talked about, it is all about managed testing solutions, and a lot of industry kind of solutions. To give you an example, like Basel II, SOX and things like that, each industry has a set of certifications that are required and we test them.

In terms of trends in the market, we see that the tool vendors who start automation is catching on and tool vendors are coming in to play and like I mentioned, Mercury is already working with us.

In terms of competition, there is not much in the market. Again lot of my the big 4 competition has not yet caught on to the fact that testing is so very niche and that you can have so much of business potential and thins like that. So they have not yet really caught on to that yet and hence the market is still quite open and most of them don't understand the fact that it is an enterprise market application and not the old product testing scenario.

In our view the CIO reach is much better in testing. What happens is that you can imagine a day when CXO, CIO, CEO put together and now we have strategy for the next quarter or so, we need to do all these things for next quarter and more than otherwise, these strategies are implemented through IT. So at the end of the next quarter ___ if you really what happens, they go back and see what happened in the strategy, is it the IT application has not come out or is defective or is it delayed, automatically the CIO is at fault. So perpetually the CIO has been at fault for not letting the strategy move ahead in that sense and what happens in the testing that we do is that we give them 98% defect-free software which means that it is not ___, it is defect-free and it is ___. So the CIO suddenly becomes a leader in the strategy table and that is the huge thing, the CIOs understand that, they suddenly realize that this is the key to controlling the level of quality that goes out with their software and that gives them a huge amount of control and hence testing does make a significant impact on talking to them.

The other thing is that focus is on total cost of ownership and if you really look at it, this is old data but typically 60% of the life cycle of a product is in maintenance. If you look at the costs and if you don't have bugs, there is nothing to maintain. So suddenly you are saving a huge amount of money on that, so that is another power of what is happening in industry and why people really want to get into that. When you really have defect-free software, you don't need call centers to pick up calls to say how do run those or how do you do that, and things like that, you don't need all those questions, so call centers itself become small. There is very little maintenance required, so you can suddenly become a highly competitive person because now you can start adding, with the same money you can actually start adding more and more features in the market and you can go ahead much faster.

The last one being automation which is becoming bigger as we go like I mentioned earlier. Customers are realizing that not only do they want cost savings they also probably want time saving and it has taken them a little while to figure it out, but typically most of them are moving towards automation of some kind.

In terms of challenges and responses to those challenges, resourcing like I mentioned it is challenge simply because this is a new market, people have to be convinced that testing is good and things like that, so it is tough to really recruit people, trying to get the right people. What we have done is gone ahead and created the IVS University where we train people on a regular basis to make sure that we are up to speed, so we can actually take freshers and thing like that and convert them in 6-8 weeks into very good testers.

The other thing that we are also looking at is our alternate talent pools, we do look at B.Sc and B.Com both at fresher level and at mid levels. When I say mid level, I mean people who are in banks and insurance companies who are people who would know the domain and the vertical, we actually hire those people and train them on how to do good testing and so on. We also take freshers and in that respect we also come up with a lot of skills in business process skills more than engineering skills.

The second challenge is commoditization of the service. Basically it is very easy to throw a few bodies across and say these are the testers that you will be working with and in that particular mode I will say the value of the service is very very low. It is below the ADM service. But the way we project it, the way we come up to them and talk to them about project managing or program managing and testing across the board, it automatically becomes a high-end service and they are able to see the value for that and are willing to pay for it.

Go-to-market with tool vendors is another approach that we are trying where a lot of these tool vendors ___ because the base pricing is quite high, and ___ services, it suddenly makes more sense to do that.

Influencing our community. One of the things is that the community is very young and there are lot of people don't even understand what is happening in testing. So we do a lot of thought leadership activities, we do speak in international conferences, we try to get our customers together and have them exchange the ideas. We also talk to students in colleges and things like that and color them with workshops in making sure that they understand the whole testing arena. So these are the ways we actually respond to our challenges.

I will quickly take you through one of our case studies. This is an end-to-end system integration testing of a Fortune 500 company who wanted to do a business process re-engineering which would enable them to make the flow of the products efficient from supplier to end customer and reduce the transaction cost as we went forward.

The project was about \$400 million and out of which IT alone was about \$100 million. So you can imagine the size of the integration that is required, it required more than 100 plus integration points where different applications have to cut across and talk to each other and things like that. So it is a very very trying exercise and this typically is one reason why most large products stray or get delayed, ___ and what we did was we actually had a multi-layered strategy on testing itself to make sure that every piece was tested before it is integrated and then we integrated and tested it again. So we made sure that the whole testing strategy was put in such a way that even the development is drilled by how the testing strategy was and when all that happened, the good part of all that is that ___ we save direct cost roughly USD \$350,000 and an elapsed time of 8 weeks through this planning. After that we also reduced the User Acceptance Testing timeline by 2 weeks, so we really played together in this extremely great software, now it is very robust, very high confidence you can have in the solution, as well as we have done it in much shorter time than expected. So that is the kind of work what we have to do for the customers.

Now I will take any questions.

Question and Answer session

Anantha Narayana

On the enterprise side of the business, is it usually meant for legacy code or?

Arun Ramu

Yeah it is meant for any code that is going to be exposed to the customer. If you really look at it that way, or is it going to hit your top line, which means that if the defects are business critical in the sense that if there was a defect and the business is going to fail because of that and then that is what we want do the testing.

Participant

For example, if Infosys were to do a fresh project today, will you guys do a testing?

Arun Ramu

No, this is testing by third party, we don't test anything in house. All of our in house software that is built is tested directly by us. If it comes through the customer, yes. So let me put it this way. Most of Infosys works with an IT department, we work with the QA department or the user department. The people who are going to use the software, right? They say that before it comes out of the IT, please certify that this works and then tell us about it. So it is not the same testing that we do. We are actually looking at testing as a outside-in view, we are looking at it from user's view point, we are not looking at it from a tester's or a developer's view point.

Participant

Arun Ramu

See there is that doubt, but the customers know that there is a need for doing that testing. See earlier before we really started this services, the customer would actually take the software that we built, Infosys built, throw it to the users, and say guys bang it out for 2 weeks. If you say it is okay, it is okay, right? So those guys are not trained testers. They come in from all over the place and they are not really interested, they might not even know the full functionality, right? So they will do whatever has to be done from the ___ and just throw it away, and they will say they have used it. Now what we are saying is instead of wasting money like that, just bring us in, we will do very rigorous testing and we will do it completely, in the sense that we will make sure that every thing is covered and it is 98-100% defect free. Once that happens they would say, they are willing to listen to the fact that the same budget can actually be used much better, because it is offshore, it is going to be cheaper, it is going to be much high skilled people and we will bring in the domain experts also. So when we put all these these things together and we are just telling them give us same money, we are not actually asking to spend more money and certainly we will see it is 98% defect free, which earlier probably was about 70-75% defect free, right? Now suddenly if it is 98% defect free then you don't have any headaches. So that is the power of that. And sometimes the project level guys don't believe it. But then when we start sending defects back, that's when the customer realizes, yeah, though the Infosys guys are doing development, the testing is also doing its job, because our job is to find defects. That is how we convince the customers.

Participant

Arun Ramu

Yeah, we do both. We actually go in and we do a business analyst view of the software, of the requirement itself, saying that is it complete first of all, like are you covering all transactions, are you covering all kind of things. And then once it is complete, then, is it correct? Meaning that, each transaction has it been specified correctly. So we do both of that and then we do the testing. So in fact, if you really look at it, if you come in early enough in the testing cycle, what happens is that we are able to give out base completeness and correctness errors directly to the development team and they can develop it better in fact, so it covers that.

Participant

Arun Ramu

If you look at it, the product testing has been something that has been happening all along, since products have been there and that is fairly well done. I wont say it is very bad, like Microsoft does 1:1, one developer to one tester. That's their employee ratio. So they are already doing that much of testing, there is no need for them to do more. So in that sense, products are already, I would call it saturated, in the sense that they are already being doing what they have to do. Enterprises have never done enough justice, so that is the market that is opening up and for them that is a huge business loss also.

Participant

How fungible are the employees between testing and the other divisions of Infosys?

Arun Ramu

We try to make them non-fungible in that sense. I mean in the sense because my guys are more domain experts. If I am testing a banking application, I need to know everything about the banking. I don't need to know JAVA, so what we get is typically what you call executables. We don't even get the source code.

Participant

If I was a fresh engineer and put in a fairly small market, wouldn't I be worried if I was put into this division?

Arun Ramu

Not really, initially yes. It takes about two weeks of convincing because of old stigma more than anything else. But if you really look at it most engineers or everybody for that matter, I mean when you come into a career you just want to win, right? One is that you need to have the right skills to do whatever job is available to you, you should be competing with people of the same skill level or same job and this is two main things. If you have those two and if you have enough work to do, there is nothing like it, right? So, today what used to happen earlier is that you have these few engineers coming out of the same training exercise, 3 months training. Both the guys are performing extremely well because that is what we taught them in 3 months. Now suddenly one guy gets put on to programming jobs and the other guy gets put on the testing. Now if you really look at it, the programming guy has the skills that he needs, he is also be going to compete with programmers and that's what he has been thought. The tester has no skills, and has got to work with the people he has no way of competing with and win against the other programmer, the peer programmer, right? So if you actually train these guys, that's what we do, we train them for 6 weeks on what is to happen and give them enough work to do and put them in the middle of hundred other testers. You have got a winner. And after 2 weeks most people don't crib.

I think we can break the session. I will take just last question.

Participant

Run rates for particular testing projects and what are the time lines?

Arun Ramu

See what happens is that initially it is projects and after that it become a testing center of excellence which means that for every customer we will have 25-30 people in a group and we will do all the testing that comes through. Any program, anything that is ____, it becomes like a testing center, it is no longer a run rate.

Participant

_____.

Arun Ramu

I would say a large percent because to tell you very quickly, once you have clean software, you get addicted. So you want more of that. So the minute you do two projects, that's it, after that you become the tester.

Thank you very much.