

# “QA and testing have become more of a concurrent process rather than an end of lifecycle process”



**Manish Tandon**, VP & Head – Independent Validation and Testing Solutions, Infosys

Interview by: Anil Chopra, PCQuest

In an exclusive interview with the PCQuest Editor, Manish talks about the global trends in software testing, skillsets required to enter the field, how technology has evolved in this area to provide higher ROI, and much more. An IIT and IIM graduate, Manish is responsible for formulating and executing the business strategy for Independent Validation and Testing Solutions practice at Infosys. He mentors the unit specifically in meeting business goals and targets. In addition, he manages critical relationships with client executives, industry analysts, deal consultants, and anchors the training and development of key personnel. Provided here are his expert comments on the subject.

**Q> What are some of the global trends in the software testing business? How do you see the market moving?**

Software testing as a market is very exciting and evolving, largely because it's under-penetrated. It is growing much faster than other parts of the software business. For instance, Infosys testing business grew by 47% as compared to 26% for the overall business. This trend is similar across industry peers.

The big trend in this stream is that more clients want to do independent software testing. This is largely due to the following reasons:

- The risks of not doing QA properly have multiplied by a couple of orders of magnitude. In the 90s, apps were created for the back office or middle office. Now they are being created for the front-end, and are revenue generating apps.
- Testing itself has become very specialized. You need really good specialists if you have to do middleware testing, performance, throughput, and availability testing. Even for domain specific apps, the need for automation, and the need to do it cheaper, faster & better, means that clients are looking for specialists.

**Q> What kind of aptitude is required for somebody to**

**become a software tester?**

Software testing has evolved into a very special function and anybody wanting to enter the domain requires two special skillsets. One is deep functional or domain skills to understand the functionality. Plus, you need specialized technical skills as well because you want to do automation, middleware, and performance testing. It's a unique combination, and we focus very strongly on both these dimensions. A good software tester should always have an eye for detail. So people who have a slightly critical eye and are willing to dig deeper always make much better testers than people who want to fly at 30k feet.

**Q> You mentioned that software testing is now required for front-end applications. What about the office apps? Aren't they important?**

Quality assurance and how much you pay for it go hand in hand with the perceived risk. Wherever the risks are higher, testing spends are higher as well. So applications that are accessed by millions of clients, like a retail banking website that's accessible by customers across the globe, companies will spend money on it. This doesn't undermine the need for QA for back-end apps. If the batch cycle for an accounting process in a bank goes for a toss, it would lead to significant losses.

**Q> How is technology changing to support the new trends you talked about in software testing?**

People have realized that automation is very important because you can do repeated QA at reduced cost with faster time to market. One set of technologies is geared to that. For instance, Microsoft has integrated their testing toolset with their development toolset. Previously, QA and testing were looked at as end of lifecycle. Now, it's integrated with the front end development cycle itself. QA and

testing have become more of a concurrent process rather than an end of lifecycle process.

**Q> We hear about software testing in the cloud. Is that a trend?**

Currently this concept is only water vapor. It's not raining right now. If you want to test commodity stuff like a website, or a small generic portal with no business logic, then you can simply create the test case for it, publish it online, and you'll get an army of testers for the job. But these are one off things, and not mainstream.

Infosys targets the global 2000 companies, and the penetration of the cloud in these companies is zero. We've pitched things like we'll setup the test infra for you and manage it, and we found that there aren't too many takers for it. That's because these companies are extremely cautious about data security, and even find it difficult to offshore their software testing. As a result, the impact of the cloud on our business at least is minimal. In the emerging and mid-sized organizations, this thing has some traction. If we provision a test infra for them, they'll find it lucrative. So the growth is there in emerging markets, but the base is very small.

**Q> What sort of certifications are ideal for a software tester?**

Infosys believes in creating its own talent. I spent 2-3% of my revenue in training and certification. We have an IVS academy, where everyone undergoes 9 weeks of training. We expect most of the people in the company to spend at least 5 days in a year to undergo training. Plus, we have certification programs. People must clear in-house certifications in order to get a promotion, else they're not even considered for it. We have to do this to create talent from within because there isn't enough.

**Q> Which apps are specific targets for software testing today?**

Specialized software testing market is moving much faster, e.g. middleware, datawarehouse testing, automation frameworks etc are growing much faster. Previously, automation was very front end specific, more like record and play. If an application didn't have a front end, you could not do automation at all. Today, even if an application has no front-end, you can still do a lot of automation.

Apps have also evolved. Earlier they were monolithic, sitting on a client/server or mainframe. Today, each app is talking to 20 others in order to execute a transaction, so this is one very big trend we're seeing. An associated trend is to see it as an end-to-end transaction, and look at the entire business process that goes across say 10 different applications.

**Q> What about software testing of mobile apps, RIAs, etc?**

There is a lot of demand for software testing from these two areas. In case of mobile apps, there is a need to test for form factor, look and feel on multiple mobile devices, etc. Plus, you also need to test for compliance, e.g. iTunes standard, .NET framework, Android space, Windows 7, etc. Here, you do the functionality testing once, and then regress it across devices to see if they work properly. RIAs are just another type of application, with a lot of demand for software testing. Take for instance, customer self-service portals, which are a beautiful way to cutting transaction cost for companies. Airlines ticket check-in is another. Earlier, there were some 30 people issuing boarding passes. Today, there's only 3-4 because travelers are expected to print their own boarding passes.

In fact, we've done some interesting projects on kiosks testing, e.g. airlines kiosks in airports. You have to create a different automation framework because the device is different. There's more tech involved in automation of those.

Overall, software testing is a very fast growing area. There's a shortage of at least 15,000 testing professionals in India itself. □