



Challenges related to Test Management

High Impact Global Product Engineering Solutions



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Ideal Test management process



Requirement & Strategy	Test Planning	Test Design	Test Automation	Test Execution	Process Analysis
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Test sufficiency

Test effectiveness

Test readiness

Test efficiency

Test progress

Product quality

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Test sufficiency – Strategy and planning



- BM:** Nothing short of **Zero defect please** Test it thoroughly to ensure zero defect
- QM:** Impractical , utopian
- BM:** **Ok** , can it at least be as close to Zero as possible ?
- QM:** How close do we want it to be ? There is a cost to making it close to zero. There is no free lunch you see..
- BM:** **Ok .. Ok ..** - can I fix field defects at low-cost-to-fix , least discomfort to customer and can afford the warranty costs ?
- QM:** Here is my plan (something like the process in the previous slide)
- BM:** **Looks great** ... go ahead
- QM:** Great .. And here is my budget and time plan
- BM:** **Cut your budget by half .. Not in business plan; BTW make in half the time**
- QM:** I will need to compromise on the quality of people; the licenses and the lab set up and that will affect the deliverables
- BM:** **I am not sure if you are being realistic** . What about the open source tools and the brilliant people we have ? can we train and motivate them to a higher job ?
I know you are innovative and let us do a good job. Bye ..
- QM:** **Aye Aye Sir !!! (Hari sadoo ver ??)**

A few weeks later – Progress Review



- BM:** How is the delivery ? Are we on schedule and how is the quality ?
- QM:** We might slip on the delivery ; Testing is only half way through and we are unearthing very obvious defects which should not have been in the first place
- BM:** Never mind that ; your job is to test , How long will it take? Can we release it this month end ?
- QM:** We may require two more rounds of unit and integration and may be at least one round of regression though I would have preferred two .. All these may take at least 4-6 weeks more .
- BM:** We cant hold the customer that long. Why don't we skip the regression and concentrate on P1 defects ; we can later have a full cycle in parallel – post release ;
- QM:** **I am not comfortable with your decision ; but then we need to be practical ;**
I will ensure that we have
Zero P1 (priority1 defects – show stoppers) ;
Not more than a dozen P2 (functional defects) ;
We will leave P3 (cosmetic) for later ;
- Conclusion :** **We will achieve our goal of having Zero defects (but applied for P1 only)**

A few more weeks later ... post delivery



BM: How was the delivery ? Any customer complaints ?

QM: No complaints ; only some observations feedback and 80 defects. But then we have not significantly slipped on the “delivered defects” and “defect density”.

BM: What is the nature of defects did we get back to fix ?

QM: Zero P1 , 20 P2 and some 60 others.

BM: That is not bad ; that is really cool ...

QM: Not exactly; We had a tough time convincing the customer on the categorization; many of the defects that got reported were actually not defects but change requests and a good number of them were neither P1 nor P2..

BM: We must target Zero defects at least for the next release

QM: Aye Aye Sir !!!

Conclusion : The customer is in the game too but is happy that we are not slipping..

And then the business story of testing goes on and grows on

Typical Drivers in Test management



- Test strategy and planning is strongly influenced by
 - availability to user / time to market
 - budgets / costs

Not on zero defect goal ; strangely though

Significant warranty cost can be the only driver for moving towards Zero defects

- Test execution is strongly influenced by
 - Expediency
 - The best foot forward approach
 - Attitude to “manage” customer satisfaction

Not always on commitment to declared quality

Self esteem and pride can be the only drivers for execution excellence

Some Operational Challenges in testing



Challenges

- Changing and creeping Requirements until the system testing phase
- Delivering within budgets
- Right staffing the work with befitting skill set and experience
- Inadequate Test coverage and inability to assess the coverage
- Achieving a higher degree of automation
- Ensuring that full scale regression is done

Root Causes

- Inadequate project management ; Focus being on costs , time and customer satisfaction than on Quality
- Universal and reliable estimation models for testing yet to emerge
- Compromises on job-employee KSA match; particularly on the domain side
- Under estimating the knowledge need on domain , application and architecture ; black box and internal .
- Due to continuous change in technology as well as lack of strategy in automation, results in less % of automation yield. Also, third party software integration causes more issues in automation
- Keeping the regression suite updated and realizing the importance

Challenges related to people management



- Scale of operations
 - Building expertise while maintaining the growth
- Market influence
 - Demand vs Supply of experts
- Career management
 - Technical and managerial growth opportunity
 - Enabling people to see a career in testing
 - Clarity in roles, responsibilities, skill sets and experience

Challenges related to technology (eg. SOA/WS testing)



- Scope of end-to-end system testing is difficult since most of the SOA/WS applications are composite in nature
- Test infrastructure planning is difficult since it is distributed and many interdependencies have to be considered
- Finding the root causes of problems across the middle tiers of SOA applications is difficult
- Functional testers have more business skills, but not the technical skills to deal with the Web services environment.
- The architecture is enterprise in scope encompassing dispersed and heterogeneous systems
- The infrastructure is distributed requiring high availability and scalability

Infrastructure related challenges



- Managing and releasing multiple product releases simultaneously
- Infrastructure to support different types of testing
- Optimizing the hardware, software and people resources
- Maintain the environment w.r.t latest patches, upgrading hardware, etc.
- Environment close to customer deployments to reproduce the problems
- Test infrastructure to support compliance, standards and custom requirements



Thank you!

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