Testing Metrics

Test Metrics:

Metrics should be collected during and at the end of a test level. They are also valuable input into process improvement. Common metrics for test progress monitoring include:

- The extent of completion of test environment preparation
- The extent of test coverage achieved, measured against requirements, risks, code, configurations or other areas of interest
- The status of the testing compared to various test milestones

Defect Density

Total Defect density = (Total number of defects including both impact and non-impact, found in all the phases + Post delivery defects)/Size

Average Defect Age

Average Defect age = (Sum of ((Defect detection phase number – defect injection phase number) * No of defects detected in the defect detection phase))/(Total Number of defects till date)

Defect Removal Efficiency

DRE = 100 * No. of pre-delivery defects / Total No. of Defects

Review Effectiveness

Review Effectiveness = 100 * Total no. of defects found in review / Total no. of defects

Cost of finding a defect in review(CFDR)

Cost of finding a defect in reviews = (Total efforts spent on reviews / No. of defects found in reviews)

Cost of finding a defect in testing(CFDT)

Cost of finding a defect in testing = (Total efforts spent on testing / defects found in testing)

Cost of Quality

Components of CoQ – Prevention Cost, Appraisal Cost, Failure Cost

Prevention Cost: (Green Money)

Cost of time spent in DP meetings

Cost of time spent by DPR/PM/TL on analysis of defect entries/discussions with team members

Cost of time spent by the team in implementing the preventive actions identified from project start date to till date

Appraisal Cost: (Blue Money)

Cost of time spent on review and testing activities from the project start date to till date

Failure Cost: (Red Money)

Failure costs include internal and external failure costs

Cost of time taken to fix the pre and post delivery defects

Expenses incurred in rework – Customer does not pay for this

Cost of Quality

- % Cost of Quality = (Total efforts spent on Prevention + Total efforts spent on Appraisal + Total efforts spent on failure or rework)*100/(Total efforts spent on project)
- Failure cost = Efforts spent on fixing or reworking the pre-delivery defects + (3 * efforts spent on fixing or reworking the post-delivery defects)

Test Case Effectiveness

Test Case Effectiveness = # of defects detected using the test cases * 100/ total # of defects detected in testing

This metrics defines the effectives of the test cases which is measured in terms of the number of defects found in testing with using the test cases

Types of Metrics:

There are several types of metrics

- Project Metrics
- Process Metrics
- Productivity Metrics
- Closure Metrics