

# POST IMPLEMENTATION ANALYSIS

# OVERVIEW

- ❖ Measuring the effectiveness of testing.
- ❖ Two purposes :
  1. evaluates the performance of testers
  2. enables IT organization to modify its testing process.

# CONCERNS

- ❖ To improve test process, the results of testing must be evaluated continually.
- ❖ Formal process and mgt support for the process needed for continuous improvement.

# WORK BENCH

❖ Input : Test Results

❖ Do Tasks :

1. Establish Assessment Objectives
2. Identify what to measure
3. Assign Measurement Responsibility
4. Select approach to evaluation

# WORK BENCH

- ❖ Do Tasks :
  5. Identify needed facts
  6. Collect evaluation data
  7. Assess Effectiveness of Testing
- ❖ Check : Analysis correct and reasonable
- ❖ Output : More Effective Testing

# INPUT

- ❖ Number of tests conducted
- ❖ Resources used in testing
- ❖ Test tools used
- ❖ Defects uncovered
- ❖ Size of software tested
- ❖ Days to correct errors
- ❖ Defects not corrected

# Establish Assessment Objectives

- ❖ Identify test weaknesses
- ❖ Identify the need for new test tools
- ❖ Assess project testing
- ❖ Identify good test practices
- ❖ Identify poor test practices
- ❖ Identify economical test practices

# Identify what to measure

- ❖ Involvement
- ❖ Extent of testing
- ❖ Resources
- ❖ Effectiveness
- ❖ Assessment



# Assign Measurement Responsibility

- ❖ One group must be responsible for collecting and assessing testing performance information
- ❖ IT mgt assigns this to Quality Assurance group
- ❖ Other groups : Information Services Comptroller, manager of standards or s/w support or planning manager

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# Select Evaluation Approach

- ❖ Judgement
- ❖ Compliance with methodology
- ❖ Problems after test
- ❖ User reaction
- ❖ Testing metrics

# Identify Needed Facts

- ❖ Change characteristics
- ❖ Magnitude of system
- ❖ Cost of process being tested
- ❖ Cost of test
- ❖ Defects uncovered by testing, by phase and after test
- ❖ Cost of testing by phase
- ❖ System complaints
- ❖ Quantification of defects and correctness of defect
- ❖ Who conducted the test

# Collect Evaluation Data

- ❖ Collection Mechanism
- ❖ Storage Mechanism
- ❖ Method to select and summarize the information
- ❖ Utility programs used wherever possible

# Assess the Effectiveness of Testing

- ❖ Metrics - assess testing by quantitatively showing the effectiveness of the test process.
- ❖ 34 testing metrics
- ❖ User participation
- ❖ Instructions coverage
- ❖ Number of tests
- ❖ Paths coverage
- ❖ Acceptance criteria tested

# Assess the Effectiveness of Testing

- ❖ Test cost
- ❖ Cost to locate defect
- ❖ Achieving budget
- ❖ Detected production errors
- ❖ Defects uncovered in testing
- ❖ Requirements, Design, Program, Test, Installation and Maintenance phase testing effectiveness (test cost vs. No. of errors detected)

# OUTPUT

- ❖ Measurement/Action Approach used to improve the test process.



**THANK YOU**

