



BEST PRACTICE

Define Effective Test Metrics

A metric is a mathematical number that shows a relationship between two variables. Software metrics are measures used to quantify status or results. This includes items that are directly earned value. Metrics specific to testing include data regarding testing, defect tracking, and software performance. The following are metric definitions:

Metric

A metric is a quantitative measure of the degree to which a system, component, or process possesses a given attribute.

Process Metric

A process metric is a metric used to measure characteristics of the methods, techniques, and tools employed in developing, implementing, and maintaining the software system.

Product Metric

A product metric is a metric used to measure the characteristics of the documentation and code.

Software Quality Metric

A software quality metric is a function whose inputs are software data and whose output is a single numerical value that can be interpreted as the degree to which software possesses a given attribute that affects its quality.

Testers are typically responsible for reporting their test status at regular intervals. The following measurements generated during testing are applicable:

- Total number of tests
- Number of tests executed to date
- Number of tests executed successfully to date

Data concerning software defects include:

- Total number of defects corrected in each activity



- Total number of defects detected in each activity
- Average duration between defect detection and defect correction
- Average effort to correct a defect
- Total number of defects remaining at delivery

Some of the basic measurement concepts are described below to help testers use quantitative data effectively.

Objective versus Subjective Measures

Measurement can be either objective or subjective. An objective measure is a measure that can be obtained by counting. For example, objective data is hard data, such as defects, hours worked, and completed deliverables. Subjective data normally has to be calculated. It is a person's perception of a product or activity. For example, a subjective measure would involve such attributes of an information system as how easy it is to use and the skill level needed to execute the system.

As a general rule, subjective measures are much more important than objective measures. For example, it is more important to know how effective a person is in performing a job (a subjective measure) versus whether or not they got to work on time (an objective measure). QAI believes that the more difficult something is to measure, the more valuable that measure.

Individuals seem to want objective measures because they believe they are more reliable than subjective measures. It is unfortunate, but true, that many bosses are more concerned that the workers are at work on time and do not leave early, than they are about how productive they are during the day. You may have observed the type of people that always want to arrive at work before the boss, because they believe meeting objective measures is more important than meeting subjective measures, such as how easy the systems they built are to use.

References

Guide – CSTE Common Body Of Knowledge, V6.1