

# Project Metrics

The processes which comes under the Software Development Project needs to be measured in order to get assured the well progress of Software development.

Software Metrics provide measures for various aspects of Software process and Software product.



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There are various types of Metrics like

- a) Process Metrics
- b) Project Metrics
- c) Product Metrics
- d) Organizational Metrics

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## Project Metrics

These are metrics that pertain to project Quality. They are used to quantify defects, cost, schedule, productivity and estimation of various project resources and deliverables.

### 1) Schedule Variance

Any difference between the scheduled completion of an activity

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and the actual completion of an activity and the actual completion is known as schedule variance

$$\text{Schedule Variance} = \frac{(\text{Actual calendar days} - \text{Planned calendar days}) + \text{Start Variance}}{\text{Planned calendar day}} \times 100$$



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## 2) Effort Variance : EV

Difference between the planned outlined efforts and the efforts required to actually undertake the task is called Effort Variance.

$$EV = \frac{(\text{Actual Effort} - \text{Planned Effort})}{\text{Planned Effort}} \times 100$$

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## 3) Size Variance :

Difference between the estimated size of the project and the actual size of the project (Normally in KLOC or FP)

$$\text{Size Variance} = \frac{(\text{Actual Size} - \text{Estimated Size})}{\text{Estimated Size}} \times 100$$

## 4) Requirement Stability Index :

Provides visibility to the magnitude and impact of Requirements changes.

$$RSI = 1 - \frac{(\text{No. of changed} + \text{No. of deleted} + \text{No. of added})}{\text{Total No. of Initial Requirements}} \times 100$$

## 5) Productivity (Project):

It is a measure of output from a related process for a unit of input

$$\text{Project Productivity} = \frac{\text{Actual Project Size}}{\text{Actual effort expended in the project.}}$$

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6) Productivity (For Test case preparation):

$$= \frac{\text{Actual no. of Test cases}}{\text{Actual Effort expended in Test case preparation.}}$$

7) Productivity (For Test Case execution):

$$= \frac{\text{Actual No. of Test cases}}{\text{Actual effort expended in Testing.}}$$

8) Productivity (Defect Detection):

$$= \frac{\text{Actual No. of defects (Review + Testing)}}{\text{Actual Effort spent on (Review + Testing)}}$$

9) Productivity (defect Fixation): A

$$= \frac{\text{Actual no. of defect fixed}}{\text{actual effort spent on defect fixation.}}$$

10) Schedule Variance for a phase:

The deviation between planned and actual Schedules for the phases within a project.

$$= \frac{(\text{Actual Calendar days for a phase} - \text{planned calendar days for a phase} + \text{Start Variance for a phase})}{(\text{Planned calendar days for a phase})} \times 100$$

11) Effort Variance for a phase:

$$= \frac{(\text{Actual effort for a phase} - \text{planned effort for a phase})}{(\text{Planned effort for a phase})} \times 100$$



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