

EVM - COST VARIANCE

Cost Variance *CV* is a very important factor to measure project performance. *CV* indicates how much over - or under-budget the project is.

CV can be calculated using the following formula:

$$\text{Cost Variance (CV)} = \text{Earned Value (EV)} - \text{Actual Cost (AC)}$$

OR

$$\text{Cost Variance (CV)} = \text{BCWP} - \text{ACWP}$$

- The formula mentioned above gives the variance in terms of cost.
- Positive *CV* indicates the project is under-budget.
- Negative *CV* indicates the project is over-budget.

Cost Variance %

Cost Variance % indicates how much over - or under-budget the project is in terms of percentage.

Cost Variance % can be calculated using the following formula:

$$\text{CV \%} = \text{Cost Variance (CV)} / \text{Earned Value (EV)}$$

OR

$$\text{CV \%} = \text{CV} / \text{BCWP}$$

- The formula mentioned above gives the variance in terms of percentage.
- Positive Variance % indicates % under budget
- Negative Variance % indicates % over budget.

Cost Performance Indicator

Cost Performance Indicator *CPI* is an index showing the efficiency of the utilization of the resources on the project. *CPI* can be calculated using the following formula:

$$\text{CPI} = \text{Earned Value (EV)} / \text{Actual Cost (AC)}$$

OR

$$\text{CPI} = \text{BCWP} / \text{ACWP}$$

- The formula mentioned above gives the efficiency of the utilization of the resources allocated to the project.
- A *CPI* value above 1 indicates the efficiency of utilizing the resources allocated to the project is good.
- A *CPI* value below 1 indicates the efficiency of utilizing the resources allocated to the project is not good.

To Complete Cost Performance Indicator

To Complete Cost Performance Indicator *TCPI* is an index showing the efficiency at which the resources on the project should be utilized for the remainder of the project. It can be calculated

using the following formula:

$$TCPI = (\text{Total Budget} - EV) / (\text{Total Budget} - AC)$$

OR

$$TCPI = (\text{Total Budget} - BCWP) / (\text{Total Budget} - ACWP)$$

- The formula mentioned above gives the efficiency at which the project team should be utilized for the remainder of the project.
- A TCPI value above 1 indicates the utilization of the project team for the remainder of the project can be stringent.
- A TCPI value below 1 indicates the utilization of the project team for the remainder of the project should be lenient.

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