

Schedule Performance Index (SPI)

The Schedule Performance Index (SPI) shows how you are progressing compared to the planned project schedule.

You can find the Schedule Performance Index by dividing Earned Value by Planned Value.

- You have completed more work than planned if the SPI is greater than one; the project is ahead of schedule.
- If you have completed less work than planned work if the SPI is less than one. The project is behind schedule.
- The completed work is equal to the planned work if the SPI is equal to one; the project is on schedule.

Example of Schedule Performance Index (SPI)

You have a project to be completed in 12 months, and the budget is 100,000 USD. Six months have passed, and 60,000 USD has been spent, but upon closer review, you find that only 40% of the work has been completed so far.

Actual Cost (AC) = 60,000USD

Planned Value (PV) = 50% of 100,000 USD = 50,000 USD

A word of caution - In this situation, you can assume the budget was distributed evenly for each month. Therefore, in 6 months, 50% of the budget will have been spent.

Earned Value (EV) = 40% of 100,000 USD = 40,000 USD

Schedule Performance Index (SPI) = $EV / PV = 40,000 / 50,000 = 0.8$

Hence, the Schedule Performance Index is 0.8

You are behind schedule since the Schedule Performance Index is less than one.

Cost Performance Index (CPI)

The Cost Performance Index specifies how much you are earning for each dollar spent on the project. It shows how well the project is sticking to the budget.

Cost Performance Index = $(\text{Earned Value}) / (\text{Actual Cost})$

You can conclude that:

- You are earning more than what you have spent if the CPI is greater than one. The project is under budget.
- You are earning less than what you have spent if the CPI is less than one. The project is over budget.
- Earning and spending is equal if the CPI is equal to one. You can say that the project is proceeding as per the planned spending.

Example of Cost Performance Index (CPI)

You have a project to be completed in 12 months, and the budget of the project is 100,000 USD. 6 months have passed, and 60,000 USD has been spent, but upon closer review, you find that only 40% of the work has been completed.

Actual Cost (AC) = 60,000USD

Planned Value (PV) = 50% of 100,000 USD = 50,000 USD

Earned Value (EV) = 40% of 100,000 USD = 40,000 USD

Cost Performance Index (CPI) = $EV / AC = 40,000 / 60,000 = 0.67$

This means you are earning 0.67 USD for every 1 USD spent since the Cost Performance Index is less than one. This means you are over budget.