

# Earned Value Analysis (EVA) for Hospital Management System

## Project Details:

Project Scope	Hospital Management System
Project Schedule Estimate	3 Months
Cost Estimate per Month	1200 Rs
Project Cost Estimate	3600 Rs

## Definitions:

- Planned Value (PV): The budgeted cost for the work planned to be done by a certain point.
- Earned Value (EV): The budgeted value of the work that has been actually completed by a specific point.
- Actual Cost (AC): The actual cost incurred for the work completed by a specific point.
- Schedule Variance(SV):  $EV - PV$
- Cost Variance(CV):  $EV - AC$
- Cost Performance Index (CPI): A ratio of the earned value to the actual cost.
- Formula:  $CPI = EV / AC$ .
- Schedule Performance Index (SPI): A ratio of the earned value to the planned value.
- Formula:  $SPI = EV / PV$ .

## End of Month 1:

Planned Value (PV):

By the end of month 1, 1/3 of the project should be completed.

$PV = (1/3) * 3600 = 1200$  Rs Earned Value (EV):

$EV = 1135$  Rs.

Actual Cost (AC):

$AC = 1200$  Rs.

### Calculations :-

$$SV = EV - PV = 1135 - 1200 = -65$$

$$CV = EV - AV = 1135 - 1200 = -65$$

$$CPI = EV / AC = 1135 / 1200 = 0.94$$

$$SPI = EV / PV = 1135 / 1200 = 0.94$$

### End of Month 2:

Planned Value (PV):

By the end of month 2, 2/3 of the project should be completed.

$$PV = (2/3) * 3900 = 2400 \text{ Rs.}$$

Earned Value (EV):

$$EV = 2380 \text{ Rs.}$$

Actual Cost (AC):

$$AC = 2450 \text{ Rs.}$$

### Calculations :-

$$SV = EV - PV = 2380 - 2400 = -20$$

$$CV = EV - AC = 2380 - 2450 = -70$$

$$CPI = EV / AC = 2380 / 2450 = 0.97$$

$$SPI = EV / PV = 2380 / 2400 = 0.99$$

### End of Month 3 (Project End):

Planned Value (PV):

By the end of the project, the entire planned value should be completed.

$$PV = 3600 \text{ Rs.}$$

$$\text{Earned Value (EV):}$$

$$EV = 3600 \text{ Rs.}$$

Actual Cost (AC):

$$AC = 3680 \text{ Rs.}$$

### Calculations :-

$$SV = EV - PV = 3600 - 3600 = 0$$

$$CV = EV - AC = 3600 - 3680 = -80$$

$$CPI = EV / AC = 3600 / 3680 = 0.97.$$

$$SPI = EV / PV = 3600 / 3600 = 1.$$

### Final Calculations :

Period	PV (Rs)	EV (Rs)	AC (Rs)	SV	CV	CPI	SPI
End of Month 1	1200	1135	1200	-65	-65	0.94	0.94
End of Month 2	2400	2380	2450	-20	-70	0.97	0.99

End of Month 3	3600	3600	3680	0	-80	0.97	1
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