## What is meant by Earned Value Management?

Earned value management is a measurement technique that integrates scope, time and cost data. Given the cost performance baseline, project teams can determine how well the project is meeting the scope, time and cost goals by inputting actual information and comparing it to the baseline. The baseline is the figure detailed in the original project plan plus approved changes. The three values involved in Earned value management is planned value (PV), actual cost (AC), and earned value (EV). Furthermore, these three values can be used to calculate the cost variance (CV), schedule variance (SV), Cost Performance Index (CPI), Schedule Performance Index (SPI)

Planned value is also known as the budget and is the portion of the approved total cost estimate planned to be spent on an activity during a given period. Actual cost is the total direct and indirect cost incurred in accomplishing work on an activity during a given period. Earned value is the estimate of a value of the physical work completed. Based on the original planned costs and the rate at which the team is completing the project to date. Rate of performance (RP) is the ratio of the actual work completed to the percentage of work planned to have been completed at any given time.

Cost variance is the earned value subtracted by the actual cost. If the result is negative, the work will cost more than initially planned and will cost less if the result is positive. Schedule variance is the earned value subtracted by the planned value and if the schedule variance is positive, it means that the project is ahead of schedule, however, if the schedule variance is negative, the project is behind schedule. Cost Performance Index is the ratio of earned value to actual cost; used to estimate the projected cost of completing the project. If the CPI is 100% then costs are exactly as planned in the budget, however if the CPI is less than 100%, the costs are over budget and if is under budget is the costs are over 100%. Schedule Performance Index is the ratio of earned value to planned value. SPI can be used to estimate the projected time to complete and uses the same key as CPI

Earned value from week 1

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| Activity | Week 1 |
| EV | 700 |
| PV | 1000 |
| AC | 800 |
| CV | (EV – AC) -100 |
| SV | (EV – PV) -300 |
| CPI | (EV/AC) 87.5% |
| SPI | (EV/PV) 70% |