Earned Value Analysis

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Earned Value Analysis

- Earned Value Analysis uniquely connects cost, schedule, and requirements thereby allowing for the creation of numerical project performance indicators and enable to managers to express the cost and technical performance of their project in an integrated and understandable way to employees, superiors and customers.
- A serious difficulty with comparing actual expenditures against budgeted or baseline expenditures for any given time period is that the comparison fails to take into account the amount of work accomplished relative to the cost incurred.
- One can continue the analysis to forecast the future of this work unit under the condition when no measures are taken to correct matters.

Earned Value Analysis(Continued…)

- EVA has three measures: Planned Value (PV), Actual Cost (AC), and Earned Value (EV).
- The planned values (PV) for each task would normally be known from the WBS and budget for the project tasks.
- Earned Value (EV) can be estimated by estimating the percent of work done.
- Making an overall estimate of the percent completion of a project without careful study of each of its tasks and work units is not sensible
- There are several conventions used to aid in estimating percent completion: The 50–50 rule, The 0–100 percent rule, Critical input use rule, The proportionality rule.

Important Formula’s

Cost Variance = EV - AC

Schedule Variance = EV - PV

CPI = EV/AC

SPI = EV/PV

Graph between EV,PV and AC

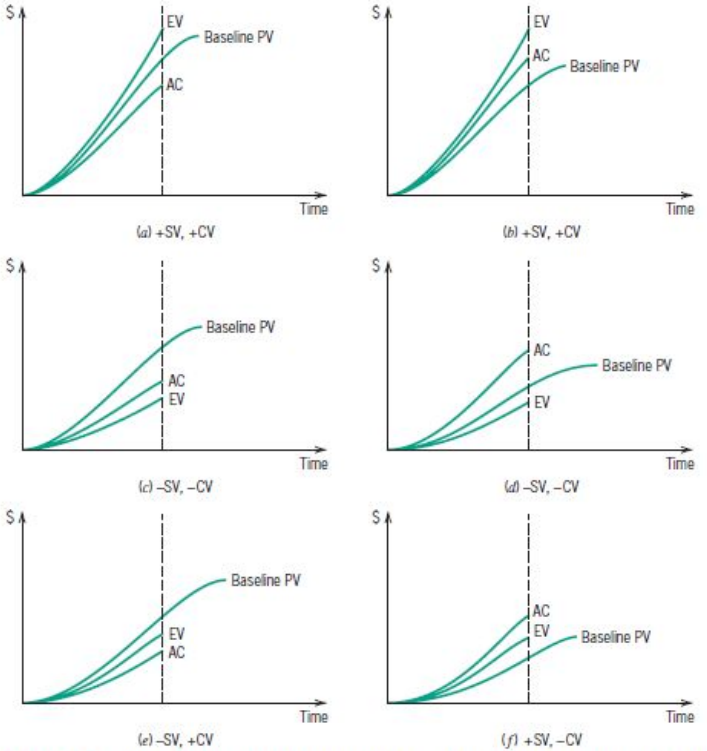

Figure 10-6 Six possible arrangements of AC, EV, and baseline PV resulting in four combinations of positive and negative schedule variance (SV) and cost variance (CV). (Figure 10-5 is arrangement *d*.)

Case Study

The company researched belongs to a sector of civil construction, which applies project management in a steady way. It is a segment that most invests in researches and new tools in this field.

Egnatia Odos, part of the Trans-European Road Network and one of the 14 priority projects of the EU, is a modern 680km highway, stretching from one side of Greece to the other. Being one of the few Greek highways to be designed and built to full up-to-date national and modern international specifications has been described as Europe’s most difficult and modern motorway.

Case Study(Continued…)

The overall cost of the bridge is estimated at 19.6 m€. The start date of the construction was the 27th of May 2005, with a planned duration of 129wks. The schedule is characterized by slow early progress, followed by a significant acceleration following completion of about 10% of works. The actual duration was 145.2 wks.