Exercise 1

Given the following information for a one-year project, answer the following questions. Recall that the PV is the planned value, EV is the earned value, AC is the actual cost, and BAC is the budget at completion.

PV = $22000

EV = $20000

AC = $25000

BAC = $120000

1. What is the cost variance, schedule variance, cost performance index (CPI) and schedule performance index (SPI) for this project?

Cost Variance (CV) = Earned Value (EV) − Actual Cost (AC)

= 20000 – 25000

= -$5000

Schedule Variance (SV) = Earned Value (EV) − Planned Value (PV)

= 20000 – 22000

= -$2000

CPI = Earned Value (EV) ⁄ Actual Cost (AC)

= 20000 / 25000

= 0.8

SPI = Earned Value (EV) ⁄ Planned Value (PV)

= 20000 / 22000

= 0.91

1. How is the project doing? Is it ahead of schedule or behind schedule? Is it under budget or over budget?

SV % = Schedule Variance (SV) ⁄ Planned Value (PV) \* 100

= -2000 / 22000 \* 100

= −9.091 %

According to the schedule variance percentage of the project calculated above the project would be regarded as behind schedule because the result is negative.

CV % = Cost Variance (CV) ⁄ Earned Value (EV)

= -5000 / 20000 \* 100

= -25%

According to the cost variance percentage calculated above the project would be regarded as over-budget because the result is negative.

As a summary, the project is doing horribly because it is both behind schedule and over-budget. This could be a result of failing to comply with project management principles and change in needed.

1. Use the CPI to calculate the estimate at completion (EAC) for this project. Is the project performing better or worse than planned?

Estimate at completion (EAC) = Budget at completion (BAC) / Cost performance index (CPI)

= 120000 / 0.8

= 150000

1. Use the SPI to estimate how long it will take to finish the project. Is the project performing better or worse than planned

Since the calculated SPI is below 1 the project is performing worse than planned. if it continues at its current level of efficiency then the project will take longer than expected to complete. The project is said to take 12 months. Therefore: