

Good essay on use
the network diagram
below and the
additional information
provid...



In this homework assignment, you will be working through two crashing problems and four earned value problems. All the information you need is included within this Homework packet. Make sure you answer all parts of the questions in their entirety.

Once you have worked through the problems, please post your responses to the Dropbox. Please refer to the course Syllabus for the due date.

PROBLEM 1

a) Give the crash cost per day per activity. [10 points]

The crash cost per day for each activity was calculated using the formula.

Crash cost per day = $\frac{\text{Crash Cost}}{\text{Crash time}}$

b) Which activities should be crashed to meet a project deadline of 10 days at minimum cost? What is the cost impact of crashing these activities? [3 points]

The critical path for is A-B-E with a duration of 12 days, To meet the deadline of 10 days activity A needs to be crashed by two days, since it is the critical path activity with the least crash cost per day compared to activity B and E.

c) Find the new budget (or cost of the project). [2 points]

New cost = $(5 \times 300) + (3 \times 250) + (6 \times 400) + (3 \times 200) + (2 \times 300) = \5850

PROBLEM 2

Use the network diagram below and the additional information provided to answer the corresponding questions. [13 points]

a) Give the crash cost per day per activity. [10 points]

b) Which activities should be crashed to meet a project deadline of 13 days

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at minimum cost?

The critical path for is B-C-D with a duration of 14 days, To meet the deadline of 13 days activity C needs to be crashed by one day, since it is the critical path activity with the least crash cost per day compared to activity B and D.

What is the cost impact of crashing these activities? [3 points]

PROBLEM 3 [8 points]

a) Calculate the cost variance (CV). [2 points]

$$CV = EV - AC.$$

$$CV = 535 - 540 = -\$5.00$$

b) Is the CV over or under budget? [2 points]

Over budget

c) Calculate the schedule variance (SV). [2 points]

$$SV = EV - PV$$

$$SV = 535 - 523 = \$12.00$$

d) Is the SV ahead of or behind schedule? [2 points]

Ahead of schedule

PROBLEM 4 [8 points]

a) Calculate the cost performance index (CPI). [2 points]

$$1. 1471$$

b) Is the project cost efficient or not efficient? [2 points]

under budget

c) Calculate the schedule performance index (SPI). [2 points]

0. 9286

d) Is the schedule efficient or not efficient? [2 points]

Behind schedule

PROBLEM 5 [8 points]

a) Calculate the cost variance (CV). [2 points]

\$128

b) Calculate the cost performance index (CPI). [2 points]

1. 2327

c) Calculate the schedule variance (SV). [2 points]

\$ -57. 00

d) Calculate the schedule performance index (SPI). [2 points]

0. 9224

e) Given these data, what should a project manager do with respect to this project?

The CV is positive meaning the project has spent less money than was planned, thus nothing needs to be done with regards finances. The Schedule variance is negative implying that the project is behind schedule, the project manager needs to divert more resources to the current activities to so as to meet the targeted timelines. The CPI is greater than one meaning the cost performance exceeds what was planned for. SPI is less than 1 indicating that the schedule performance is less that was anticipated.

PROBLEM 6 [8 points]

a) Calculate the cost variance (CV). [1 point]

\$ -82. 00

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b) Calculate the cost performance index (CPI). [1 point]

0.8921

c) Calculate the schedule variance (SV). [1 point]

\$ -57.00

d) Calculate the schedule performance index (SPI). [1 point]

0.9224

e) Explain the project performance in terms of efficiency, budget, and schedule. What should the project manager do for the project? [4 points]

The CV is negative meaning the project has spent more money than was planned, thus the project manager needs to control the project spending if need be contingency reserves may be applied. The Schedule variance is negative implying that the project is behind schedule, the project manager needs to initiate some corrective action if the project schedule is to be met. The CPI is less than one meaning the cost performance is below what was planned for hence need for corrective action. SPI is less than 1 indicating that the schedule performance is less than was anticipated, thus the PM needs to initiate some corrective action.