Planning Process Group Artifacts

11.4 Perform Quantitative Risk Analysis

11.4.3 Quantitative Risk Analysis Modeling Technique (Tools)

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11.4.3 Quantitative Risk Analysis Modeling Technique (Tools):

This artifact was taken from a homework assignment from PMGT 613; the Advance Energy case study. The problems addressed used the PERT method, a tool and technique of the quantitative risk analysis process.

[Year]

6.5 Deliverable: Advantage Tech Center Migration Case

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6.5 - Deliverable: Advantage Energy Technology Data Center Migration Case Study

1.

Expected Proj Duration = 69 Days

T(s) = 68 Days

Probability of completing before 68 days?

Z=Ts – Te/sum of [(Pessimistic-Optimistic/6)^2] **of the critical path**

= 68-69/sq root of the sum .03+1.78+1.78+.44+.11+1.78+.03+.44+.11+.03+.11

= -1/ = 2.58 = -.388

Z values and Prob Table (A 7.2) pg. 242 = approximately .35 or 35%

2.

Calculate what the expected project duration would have to be to ensure a 93% chance of completion within 68 days.

Using the table from A.72:

Probability = .93

Z value of approximately + 1.5

Ts= 69.67 (QM software table)

Te=(Z*2.58)-Ts = 65.8 days

3.

Ts= 149 days

Var=7.69

** What is the probability of reducing the project by two days?

Z=Ts-Te/sq root of the sum of the variance along the critical path

(QM Excell Chart's variance outputs)

-2/sq root of .03+.11+.44+.44+.44+.11+.44+.44+.44+.44+2.78+.44+.44+.11+.11+.44

= -2/2.77

= - .722; referring to Table A7.2: prob = .25 or 25%

4.

Similar to Q2, however due to staff rearrangements, they have asked Tom to calculate the expected project duration would have to be to ensure a 98% chance of completions within 160 days.

Prob = .98

Z = +2.1 (table A7.2)

Ts=149

Sum of Var of the critical pate = 2.77

Te=(Z*2.77)-Ts = **143.18 days**