PERT

Project Evaluation Review Technique

CPM was a deterministic technique, it considered that all the activities' times are fixed; real life is not like that. PERT assumes a probabilistic method.

In PERT, for each activity are given three times: a minimum time, a maximum time and a regular time

With these three data, a triangular distribution is obtained, but is hard to manage. To address this issue the mean (μ) and the standard deviation (σ) are calculated to transform it into a **normal distribution**.

The probability of completing A in 7 days or less R(A <=7) is 50 %

To get other probabilities than the mean one, Z-tables are used, but to get to use them, the normal distribution has to be **standard normal distribution**, i.e., with a mean of 0 and a standard deviation of 1.

We are searching for the probability of finishing activity A in 5 days or less, but our normal distribution has a μ = 7 and a σ = 1.33

Activity	Min	Max	Reg	Predecessor	M
A	3	11	7	-	7
B	2	10	6	A	6
C	4	9	5	A	5.50
D	7	14	9	B, C	9.5

To get the mean of the whole project, the mean of the critical activities is obtained To get the standard deviation of the whole project, the standard deviations of the critical activities are summed

In order to obtain probabilities about the whole project, is required that the mean and the standard deviation of the whole project are obtained first.