QUANTITATIVE RISK ANALYSIS AND MODELING TECHNIQUES

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PMGT 690

JANUARY 2016

A Quantitative analysis done in QM for Excel

Part A

The first graph shows the Predecessor and Time data:

Original Input Table

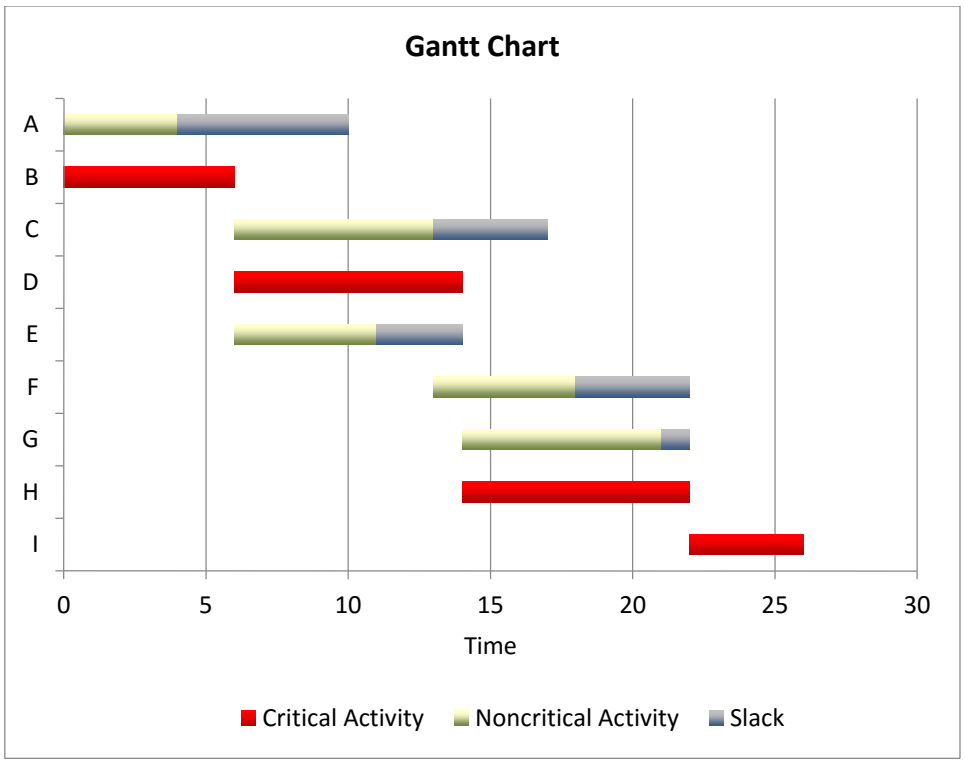
Activity	Time	Predecessor 1	Predecessor 2	Predecessor 3
A	4			
B	6			
C	7	A	B	
D	8	B		
E	5	B		
F	5	C		
G	7	D		
H	8	D	E	
I	4	F	G	H

Original Resulting Table

Activity	Early Start	Early Finish	Late Start	Late Finish	Slack
A	0	4	6	10	6
B	0	6	0	6	**0**
C	6	13	10	17	4
D	6	14	6	14	**0**
E	6	11	9	14	3
F	13	18	17	22	4
G	14	21	15	22	1
H	14	22	14	22	**0**
I	22	26	22	26	**0**
	Project	**26**			

The image is the Gantt chart that was created and it shows the critical activity, non-critical activity, and slack time that the project can have for each of the activities shown.

Original Gantt chart



This next image shows the crash times that were discovered to insure that the project would be completed on time. It will cost more money to finish the project on the time schedule.

14-Week Crash Table

Crash days	Crash cost/day	Crash limit
2	500	3
4	750	4
0	1500	4
4	3000	4

1	666.6666667	3
2	750	2
1	800	5
2	3000	4
2	500	2

Analysis

Crashing the project down to 14 weeks, it will result in a crashing cost of $25,966.67 that must be added that must be added to the overall cost of the project. It is important to provide these kinds of information if and when the project owners want to reduce the project time or if the project gets behind schedule. Some suppliers do not like to supply these kinds of information to their customers. Providing critical assessment as this, companies fear that they will have to speed up their future project as well. Project crashing can add extra risk.

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