

# Project Management

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(C.T. Ragsdale: Chap. 14)

- Tactical / operational decisions
- Techniques developed to help managers to plan, organize and control projects (during the 1950s):

1) CPM (Critical Path Method)

2) PERT (Program Evaluation and Review Technique)

Focus: to determine when a project ( $\equiv$  set of activities that require different amounts of time and must be accomplished by respecting certain precedence relationships) should be completed, and to schedule each activity in order to keep the overall project on schedule.

## Main difference:

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- CPM assumes that the time required by each project activity is known
- PERT assumes that this time is essentially a random variable (uncertainty), so estimating the probability of completing the project by a given deadline

## An example (how to represent the project)

(iii 14.1) : Lightner Construction

- general contracting company specialized in the construction of family residences and small office buildings (internal logistics)
- consider the following project, characterized by activities with the associated required time (in days), and by precedence relationships among the activities:



<u>Activity</u> (i)	<u>Time</u> <u>required</u> (in days) ( $t_i$ )	<u>Immediate</u> <u>predecessors</u>
A (excavate)	3	—
B (lay foundation)	4	A
C	3	B
D	10	B
E	8	D
F	4	D
G	6	D
H	8	C, E, F, G
I	5	H
J	5	H
K	4	I
L	2	J
M (install activity)	4	K, L