Chapter 3
Determining Feasibility and Managing Analysis and Design Activities

Systems Analysis and Design

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Fifth Edition

Major Topics

- Project initiation
- Determining project feasibility
- Project scheduling
- Managing project activities
- Manage systems analysis team members

Project Initiation

- Projects are initiated for two broad reasons:
  - Problems that lend themselves to systems solutions
  - Opportunities for improvement through
    - Upgrading systems
    - Altering systems
    - Installing new systems

Organizational Problems

- Identify problems by
- Check output against performance criteria
  - Too many errors
  - Work completed slowly
  - Work done incorrectly
  - Work done incompletely
  - Work not done at all

Organizational Problems

- Observe behavior of employees
  - High absenteeism
  - High job dissatisfaction
  - High job turnover

Organizational Problems

- Listen to feedback from vendors, customers, and suppliers
  - Complaints
  - Suggestions for improvement
  - Loss of sales
  - Lower sales

Project Selection

- Five specific criteria for project selection
  - Backed by management
  - Timed appropriately for commitment of resources
  - It moves the business toward attainment of its goals
  - Practicable
  - Important enough to be considered over other projects

Feasibility

- A feasibility study assesses the operational, technical, and economic merits of the proposed project
- There are three types of feasibility:
  - Technical feasibility
  - Economic feasibility
  - Operational feasibility

Technical Feasibility

- Technical feasibility assesses whether the current technical resources are sufficient for the new system
- If they are not available, can they be upgraded to provide the level of technology necessary for the new system

Economic Feasibility

- Economic feasibility determines whether the time and money are available to develop the system
- Includes the purchase of
  - New equipment
  - Hardware
  - Software

Operational Feasibility

- Operational feasibility determines if the human resources are available to operate the system once it has been installed
- Users that do not want a new system may prevent it from becoming operationally feasible

Activity Planning

- Activity planning includes
  - Selecting a systems analysis team
  - Estimating time required to complete each task
  - Scheduling the project
- Two tools for project planning and control are Gantt charts and PERT diagrams

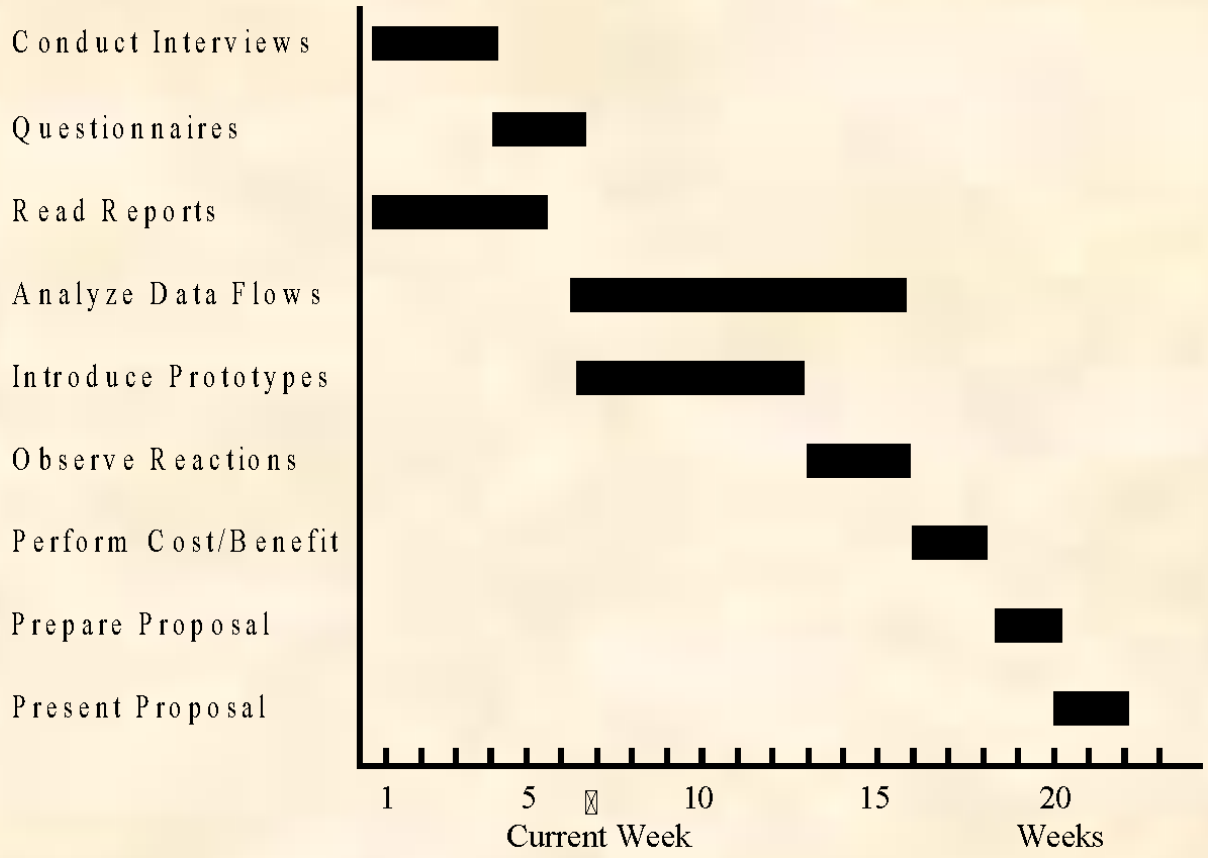
Estimating Time

- Project is broken down into phases
- Further broken down into tasks or activities
- Finally broken down into steps or even smaller units
- Estimate time for each task or activity
- May use a most likely, pessimistic, and optimistic estimates for time

Gantt Charts

- Easy to construct and use
- Shows activities over a period of time

Gantt Chart Example

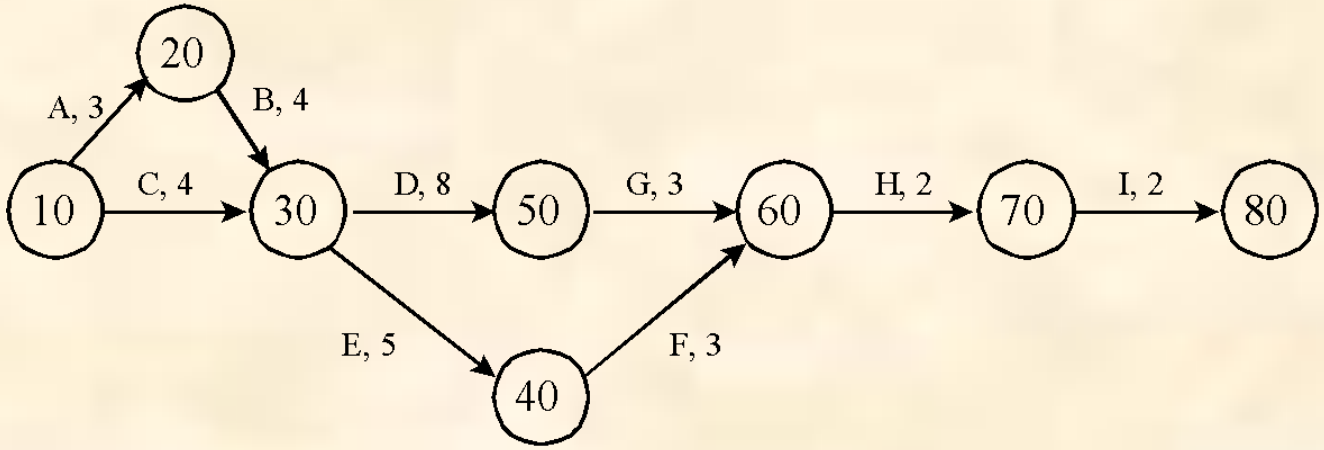


PERT Diagram

- PERT - Program Evaluation and Review Technique
  - PERT diagrams show precedence, activities that must be completed before the next activities may be started
  - Used to calculate the critical path, the longest path through the activities
  - This is the shortest time to complete the project

PERT Diagram Example

A	Conduct Interviews	None	3
B	Questionnaires	A	4
C	Read Reports	None	4
D	Analyze Data Flows	B, C	8
E	Introduce Prototypes	B, C	5
F	Observe Reactions	E	3
G	Perform Cost/Benefit	D	3
H	Prepare Proposal	G	2
I	Present Proposal	H	2



PERT Diagram Advantages

- Easy identification of the order of precedence
- Easy identification of the critical path and thus critical activities
- Easy determination of slack time, the leeway to fall behind on noncritical paths