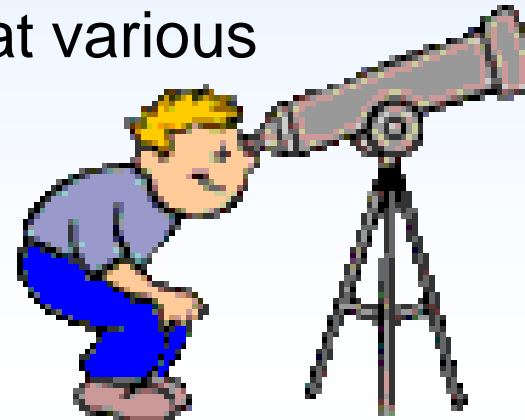# Feasibility Study

- **Feasibility**
  - The measure of how beneficial / practical an information system will be to an organization
 - Should be measured through out the life-cycle

- **Feasibility Analysis**
  - The process by which the feasibility is measured
  - An ongoing evaluation of feasibility at various checkpoints in the life cycle

Categories of Feasibility Tests

- Operational Feasibility
- Cultural / Political Feasibility
- Technical Feasibility
- Schedule Feasibility
- Economic Feasibility
- Legal Feasibility
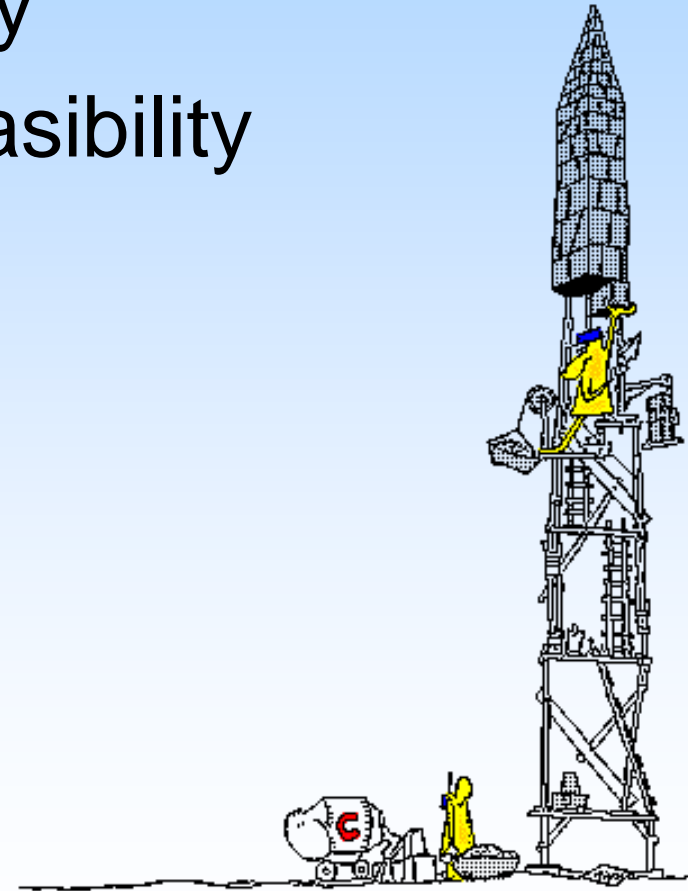
Operational feasibility.

- A measure of how well a solution meets the identified system requirements to solve the problem.

- Take advantage of the opportunities identified during the scope definition and problem analysis phases.

- Also ask if given what is now known about the problem and the cost of the solution , the problem is still worth solving.

Cultural (or Political) Feasibility

- A measure of how well the solution will be accepted in a given organizational climate

- Deals with how the end users feel about the proposed system.

- Evaluates whether a system will work in a given organizational climate.

Technical feasibility.

- A measure of the
  - Practicality of a technical solution
  - Availability of technical recourses and expertise

- Addresses three major issues
  - Is the proposed technology or solution practical?
  - Do we currently possess the necessary technology (Hardware/Personnel) ?
  - Do we possess the necessary technical expertise?

Schedule feasibility

- A measure of how reasonable a project time table is.

  - Can the solution be designed and implemented within an acceptable time period?

  - how much time is available to build the new system?

  - when it can be built ?

- Mandatory / Desirable deadlines.

Legal Feasibility

- A measure of how well a solution can be implemented within existing legal and contractual obligations.

- understand potential legal and contractual ramifications of the system

  * copyright law

  * code ownership (if developed with outside assistance) -- be VERY specific

  * labour laws

  * foreign trade, and labour regulations

  * Financial & Accounting standards

  * governmental constraints, and pending legislation

Economic feasibility.

- a measure of the cost-effectiveness of a project
    - Is the solution cost-effective?
    - Whether the solution will pay for itself?
    - How profitable the solution is?

- Once the specific requirements and solutions have been identified
    - Weight the costs and benefits of each alternative (Cost benefit Analysis)

e.g. Personnel cost, Computer cost, Training, Software, Tangible and Intangible benefits

Cost Benefit Analysis

- Determines the cost effectiveness of a project or solution

- The purpose of a cost/benefit analysis is to answer questions such as:

  - Is the project justified (because benefits outweigh costs)?

  - Can the project be done, within given cost constraints?

  - What is the minimal cost to attain a certain system?

  - What is the preferred alternative, among candidate solutions?

How much will the system cost?

- Two types of costs, costs associated with

  - Developing the system
    - Can be estimated from the outset of a project
    - Should be refined at the end of each phase
    - One time costs (will not recur after the project has been completed
  - Operating a system
    - Can be estimated only after specific computer-based solutions have been defined
    - Recur throughout the lifetime of the system

How much will the system cost?

- System development Cost Categories
  - Personnel costs
  - Computer Usage
  - Training
  - Supply, duplication, and equipment costs
  - Cost of any new computer equipment and software

What benefits will the system provide?

- Benefits
  - increase profit
  - Decrease costs
  - Can be classified as
    - Tangible benefits – a benefit that can be easily quantified.
    - Intangible benefits – a benefit that is believed to be difficult or impossible to quantify

Feasibility Analysis of Candidate systems

- During the decision analysis phase of system analysis,
  - Identifies candidate system solutions
  - Analyses the solution for feasibility
- Can use two alternatives to compare and contrast candidate system solutions
  - Candidate System Matrix
  - Feasibility Analysis Matrix

Use A Matrix Format

Candidate Systems Matrix

- Used to document similarities and differences between candidate systems

  - Compare candidate systems
  - Offers no analysis
  - Columns represent candidate solutions
  - Rows represent characteristics that differentiate the candidates

Candidate Systems Matrix

- Example

	Candidate 1 Name	Candidate 2 Name	Candidate 3 Name
Stakeholders			
Knowledge			
Processes			
Communications			

Template

Candidate Systems Matrix

- Example

	Candidate 1 Name	Candidate 2 Name	Candidate 3 Name
Stakeholders			
Knowledge			
Processes			
Communications			

Identify how the system will interact with people, and other systems

Template

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Candidate Systems Matrix

- Example

	Candidate 1 Name	Candidate 2 Name	Candidate 3 Name
Stakeholders			
Knowledge			
Processes			
Communication			

**Identify how data stores be implemented,
inputs will be captured,
outputs will be generated**

Template

Candidate Systems Matrix

- Example

	Candidate 1 Name	Candidate 2 Name	Candidate 3 Name
Stakeholders			
Knowledge			
Processes			
Communications			

Identify How (manual) business process will be modified, how computer processes will be implemented

Template

Candidate Systems Matrix

- Example

	Candidate 1 Name	Candidate 2 Name	Candidate 3 Name
Stakeholders			
Knowledge			
Processes			
Communications			

Identify how processes and data will be distributed.

Template

Feasibility Analysis Matrix

- Used to rank candidate systems
  - Columns represent candidate response
  - Rows correspond to the feasibility criteria
  - Cell contain the feasibility assessment notes for each candidate

Feasibility Analysis Matrix

	Weighting	Candidate1	Candidate2	Candidate3
Description				
Operational Feasibility				
Cultural Feasibility				
Technical Feasibility				
Economic Feasibility				
Schedule Feasibility				
Legal Feasibility				
Weighted Score				

Eg. : - Refer page 429-430

The System Proposal

- A report / presentation of a recommended solution
- Usually a formal written report or oral presentation
- Intended for system owners and users

Formal written report

Oral presentation

System owners
And
End Users