Testing Project Feasibility

Feasibility is the determination of whether a project is worth doing. The process followed in making this determination is called a feasibility study. This type of study determines if a project can and should be taken. Once it has been determined that a project is feasible. The analyst can go ahead and prepare at the project specification which finalizes project requirements. Generally, feasibility studies are undertaken within tight time constraints and normally culminate in a written and oral feasibility report. The contents and recommendations of such a study will be used as a sound bases for deciding whether to proceed, postpone or cancel the project.

Preliminary investigations inspect project feasibility; the probability the system will be functional to the organization. Three significant tests of feasibility are considered and described below:

1. ***Technical Feasibility:*** This is concerned with specifying equipment and software that will successfully satisfy the user requirement. The technical needs of the system may vary considerably, but might include:

   - The facility to produce outputs in a given time.
   - Response time under certain conditions.
   - Ability to process a certain volume of transaction at a particular speed.
   - Facility to communicate data to distant location.

Out of all types of feasibility, technical feasibility generally is the most difficult to determine.

2. ***Operation Feasibility:*** It is mainly related to human organizational and political aspects. The points to be considered are:

   - What changes will be brought with the system?
   - What organizational structures are disturbed?
   - What new skills will be required? Do the existing staff members have these skills? If not, can they be trained in due course of time?

Generally project will not be rejected simply because of operational infeasibility but such considerations are likely to critically affect the nature and scope of the eventual recommendations. This feasibility study is carried out by a small group of people who are familiar with information system techniques, who understand the parts of the business that are relevant to the project and are skilled in system analysis and design process.

3. ***Economic Feasibility:*** Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. More commonly known as cost/benefit analysis; the procedure is to determine the benefits and savings that are expected from a proposed system and compare them with costs. If benefits outweigh costs, a decision is taken to design and implement the system. Otherwise, further justification or alternative in the proposed system will have to be made if it has a chance of being approved. This is an ongoing effort that improves in accuracy at each phase of the system life cycle.

A number of approaches for assessing the costs of solutions have been suggested. Approaches include the following:

- *Last cost:* This is based on the observation that costs are easier to control and identify the revenues. Thus, it assumes that there is no change in income caused by the implementation of a new system. In such an evaluation, only the costs are listed and the option with the lowest cost is selected.

- *Time to Payback:* This method of economic evaluation is an attempt to answer the question. How long would it be until we get out money back on this investment in system? This requires data on both costs and benefits. This method of evaluation has two significant disadvantages:

    - It only considers the time taken to return the original investment and ignores the system's long term profitability.

    - The method does not recognize the time value of money. Benefits that accrue in the distant future are not worth as much as similar benefits that occur more quickly but this method fails to recognize this.

- *Cost-effectiveness:* Some type of cost benefit analysis is performed for each alternative. Rough projections of equipment requirements and costs, operational costs, manpower costs, maintenance cost, etc., need to be made. Projections of potential, tangible as well intangible benefits are also needed to be made.

Example: Tangible benefits are ability to obtain information, which was previously not available, faster or timely receipt of information, improved or better decision making, improvement in planning and control etc.

In the conduct of the feasibility study, some more interrelated types of feasibility can be considered are discussed below:

1. ***Social Feasibility:*** Social feasibility is a determination of whether a proposed project will be acceptable to the people or not. This determination typically examines the probability of the project being accepted by the group directly affected by the proposed system change.
2. ***Management Feasibility:*** It is a determination of whether a proposed project will be acceptable to management. If management does not accept a project or gives a negligible support to it, the analyst will tend to view the project as a non-feasible one.
3. ***Legal Feasibility:*** Legal feasibility is a determination of whether a proposed project infringes on known Acts, statutes, as well as any pending legislation. Although in some instances the project might appear sound, on closer investigation it may be found to infringe on several legal areas.
4. ***Time Feasibility:*** Time feasibility is a determination of whether a proposed project can be implemented fully within a stipulated time frame. If a project takes too much time it is likely to be rejected.