5.1 introduction to Feasibility Study

A feasibility study is an analysis that takes all of a project's relevant factors into account—including economic, technical, legal, and scheduling considerations—to ascertain the likelihood of completing the project successfully. Project managers use feasibility studies to discern the pros and cons of undertaking a project before they invest a lot of time and money into it

Feasibility studies also can provide a company's management with crucial information that could prevent the company from entering blindly into risky businesses.

Understanding Feasibility Studies

A feasibility study is simply an assessment of the practicality of a proposed plan or project. As the name implies, these studies ask: Is this project feasible? Do we have the people, tools, technology, and resources necessary for this project to succeed? Will the project get us the return on investment (ROI) that we need and expect?

The goals of feasibility studies are as follows:

- To understand thoroughly all aspects of a project, concept, or plan
- To become aware of any potential problems that could occur while implementing the project
- To determine if, after considering all significant factors, the project is viable—that is, worth undertaking

The Importance of Feasibility Studies

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The Importance of Feasibility Studies

Feasibility studies are important to business development. They can allow a business to address where and how it will operate. They can also identify potential obstacles that may impede its operations and recognize the amount of funding it will need to get the business up and running. Feasibility studies aim for marketing strategies that could help convince investors or banks that investing in a particular project or business is a wise choice.

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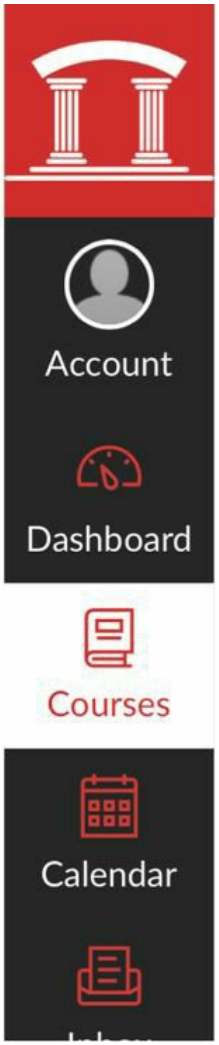

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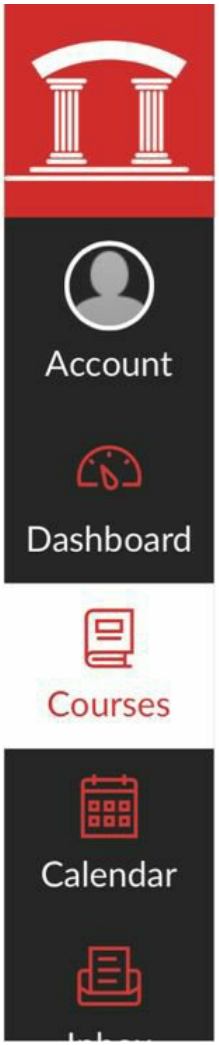
5.2 Deciding on project goals

Deciding on the goals of a project, qualifying them and obtaining consensus of users is an important task of a system analyst. The important guidelines for arriving at goals are :

1. Identify deficiency by pinpointing
   - Missing functions,
   - Unsatisfactory performance, and
   - Excessive cost of operations.
2. Set goals to remove these deficiencies
3. Goals must be
   - Quantified,
   - Realizable within the constraints of an organization,



- Missing functions,
- Unsatisfactory performance, and
- Excessive cost of operations.

2. Set goals to remove these deficiencies
3. Goals must be

- Quantified,
- Realizable within the constraints of an organization,
- Broken down into sub-goals, and
- Agreeable to all concerned.

4. Set goals not only to remove deficiencies but also to effectively meet competition. For instance, goals may be based on what competitors do.

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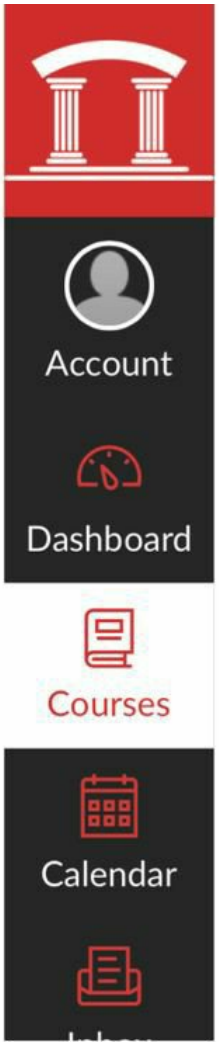

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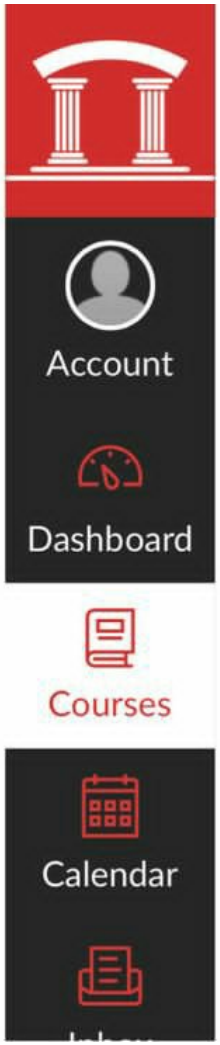
5.3 Examining alternative solutions

During the feasibility phase, broad alternative solutions to problems are examined. It is not necessary to get into details at this stage. For each alternative solution the cost and the benefits have to be examined before deciding one of the alternatives.

Broad solutions will consist of :

1. Specification of information to be made available by the system,
2. Description of what will be done manually and what will be done by the computer, and
3. Specification of new computing equipment needed or



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Broad solutions will consist of :

1. Specification of information to be made available by the system,
2. Description of what will be done manually and what will be done by the computer, and
3. Specification of new computing equipment needed or specification of expansion of an existing computer.

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5.4 Cost-Benefit Analysis

A cost-benefit analysis is necessary to determine economic feasibility. The primary objective of cost-benefit analysis is to find out whether it is economically worthwhile to invest in the project.

If the return on the investment is good, then the project is considered economically worthwhile.

Cost-benefit analysis is performed by first listing all the costs associated with the project. Cost consist of both direct costs and indirect costs. Direct costs are those incurred I buying equipment, employing people, cost of consumable items, rent for accommodation, etc.

Indirect costs include those involving time spent by user in discussing problems with system analysts, gathering data about problem, etc.

Details of direct costs are :

1. Cost of computer, peripherals and software. It could be either a capita cost for buying a computer or cost of renting one.
2. Cost of space such as rent, furniture, etc. in a place like Bombay the cost of space occupied by a system analyst in prime location could be Rs. 5000 per month!
3. Cost of system analysts and programmers (salary during the period of assignment).
4. Cost of materials such as stationery, floppy disks, toner, ribbon, etc.
5. Cost of designing and printing new forms, user manuals, documentation, etc.
6. Cost of secretarial services, travel, telephone, etc. An estimate is sometimes made of indirect cost if it is very high and added to direct cost.
7. Cost of training analysts and users.

Benefits can be broadly classified as tangible benefits and intangible benefits. Tangible benefits are directly measurable. These are :

1. Direct savings made due to reducing (a) inventories, (b)

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Benefits can be broadly classified as tangible benefits and intangible benefits. Tangible benefits are directly measurable. These are :

1. Direct savings made due to reducing (a) inventories, (b) delays in collecting outstanding payments, (d) cost of production, and increasing production, as also its speed.
2. Savings due to reduction in human resources or increasing volume of work with the same human resources.

Intangible benefits are:

1. Better service to customers
2. Superior quality of products
3. Accurate, reliable and up to date strategic, tactical and operational information which ensures better management and there by more profits.

The sum of all costs is compared with the sum of all savings(tangible and intangible). It is not always easy to assign money value to intangible benefits. It is arrived at by discussion amongst users of the information system.

If the project is a high cost one, extending over a period of times, then it is necessary to estimate costs during various phases of development of the system so that they can be budgeted by the management.

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5.5 Payback period

1.Simple Payback Method:

Once the cost of the project and the benefits have been quantified, The next step is to find out Whether the benefits justify the cost. There are two ways of finding out this. They are Known as the payback method and the present value method. The payback method is used to find out in how many years the money spent is recovered as benefits. In the example considered, We found that the cost Was Rs.1,30,000/- and the benefits Rs.31,740/- per month. Thus in 4.1 months recover Rs.1,30,134/- Which exceeds the cost. The payback is thus 4.1 months.

2.Payback Method With Interest:

The payback method is a simple method of computing benefits. In this method We have not taken into account the fact that if Rs. 1,30,000/- is invested in a bank, We Will get interest. Hence the benefits should be reduced by the amount of interest Which would be Earned. If an interest rate of 1.5% per month is used, then the interest per month on Rs.1,30,000/- Will be Rs. 1,950/. Therefore, net monthly benefit in the example being considered is Rs. 29,790/-. Thus the payback period for a payback method With interest becomes nearly 4.36 months. Even this method is not entirely correct as benefits themselves Would earn interest.

3.Present Value Method:

The correct application of the present value method is to ask the question: What is present value of earning Which may accure after n years? Thus if r% is the interest rate per annum, the present value of earnings x accruing in the nth year is

Present value = $x/(1+ r/100)^n$

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5.6 System Proposal

On a request from the chief warden of the student hostel, a study was initiated to find out how the operation of the hostel could be improved by using a better information system.

After lengthy discussion with various personnel in the hostel, it was conclude that the problem which had to be tackled on a high priority basis was a better information system for billing, accounting, inventory control and stores issues in the students mess.

What to include in the Systems Proposal

Ten main sections comprise the written systems proposal. Each part has a particular function, and the eventual proposal should be arranged in the following order:

1. Cover letter.
2. Title page of project.
3. Table of contents.
4. Executive summary (including recommendations).
5. Outline of systems study with appropriate documentation.
6. Detailed results of the systems study.
7. Systems alternatives (three or four possible solutions).
8. Systems analysts' recommendations.
9. Proposal summary.
10. Appendices (assorted documentation, summary of phases, correspondence, and so on).

A cover letter to managers and the IT task force should accompany the systems proposal. It should list the people who did the study and summarize the objectives of the study. Keep the cover letter concise and friendly.

Include on the title page the name of the project, the names of the systems analysis team members, and the date the proposal is submitted. The proposal title must accurately express the content of the proposal, but it can also exhibit some imagination. The table of contents can be useful to

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The executive summary, in 250 to 375 words, provides the who, what, when, where, why, and how of the proposal, just as would the first paragraph in a news story. It should also include the recommendations of the systems analysts and desired management action, because some people will only have time to read the summary. It should be written last, after the rest of the proposal is complete.

The outline of the systems study provides information about all the methods used in the study and who or what was studied. Any questionnaires, interviews, sampling of archival data, observation, or prototyping used in the systems study should be discussed in this section.

This detailed results section describes what the systems analyst has found out about human and systems needs through all the methods described in the preceding section. Conclusions about problems workers experience when interacting with technologies and systems that have come to the fore through the study should be noted here. This section should raise the problems or suggest opportunities that call forth the alternatives presented in the next section.

In the systems alternatives section of the proposal, the analyst presents two or three alternative solutions that directly address the aforementioned problems. The alternatives you present should include one that recommends keeping the system the same. Each alternative should be explored separately. Describe the costs and benefits of each situation. Because there are usually trade-offs involved in any solution, be sure to include the advantages and disadvantages of each.

Each alternative must clearly indicate what users and managers must do to implement it. The wording should be as clear as possible, such as, “Buy notebook computers for all middle managers,” “Purchase packaged software to support users in managing inventory,” or “Modify the existing system through funding in-house programming efforts.”

After the systems analysis team has weighed the alternatives, it will have a definite professional opinion about which

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After the systems analysis team has weighed the alternatives, it will have a definite professional opinion about which solution is most workable. The systems analysts' recommendations section expresses the recommended solution. Include the reasons supporting the team's recommendation so that it is easy to understand why it is being made. The recommendation should flow logically from the preceding analysis of alternative solutions, and it should clearly relate the human–computer interaction findings to the choice offered.

The proposal summary is a brief statement that mirrors the content of the executive summary. It gives the objectives of the study and the recommended solution. The analyst should once more stress the project's importance and feasibility along with the value of the recommendations for reaching the users' goals and improving the business. Conclude the proposal on a positive note.

The appendix is the last part of the systems proposal, and it can include any information that the systems analyst feels may be of interest to specific individuals, but that is not essential for understanding the systems study and what is being proposed.

Once the systems proposal is written, carefully select who should receive the report. Personally hand the report to the people you have selected. Your visibility is important for the acceptance and eventual success of the system.

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