



SECTION - 4

PROJECT SELECTION CONSIDERATIONS AND FEASIBILITY STUDIES

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4.1. WHAT IS A FEASIBILITY REPORT?

- 4.1.1 Feasibility report is an analytical tool used during the project planning process which shows how a project would operate under a set of assumptions, the technology used and the financial aspects. It also gives an outline description of the recommended solution and explains the reasons for selection.
- 4.1.2 It is conducted during the deliberation phase of project development before financing is secured. The study is the first time in a project development process that the pieces are assembled to see if they perform together to create a technical and economically feasible concept. It is therefore, called techno-economic feasibility study.
- 4.1.3 The feasibility study evaluates the project's potential for success. If after completing a feasibility study, the group decides not to proceed, there is no need to create a project plan. The perceived objectivity of the evaluation is an important factor in the credibility placed on the study by potential investors and financiers. The study brings out the possible future outcome under presently prevailing factors, both financial and economical.

4.2. WHY PREPARE FEASIBILITY STUDIES?

- 4.2.1 Developing any new business venture is difficult and involves large financial outlay. Taking a project from the initial idea through the operational stage is a complex and time consuming effort. Before the potential members invest in a proposed business proposal, they must determine if it can be economically feasible, financially viable and then decide if investment advantages outweigh the costs and risks involved. Often construction project operations involve risks with which the members are unfamiliar. The feasibility study allows groups to preview potential project outcomes and to decide if



they should continue. It is an integral part in developing any project. The purpose of the feasibility study is to explore the project in enough detail for the interested parties and stakeholders to make a commitment to proceed with the development of the project.

- 4.2.2 Feasibility studies are useful and valid for many kinds of projects. An evaluation of a new business venture both for new groups and established businesses, is the most common, but not the only usage. Studies can help groups to expand existing services, build or remodel facilities, change methods of operation, add new products, or even merge with another business. A feasibility study assists decision makers whenever they need to consider alternative development opportunities.
- 4.2.3 Although the cost of conducting a study may seem high, they are relatively insignificant compared with the total project cost. The small initial expenditure on a feasibility study can help to protect larger capital investments. On the contrary, applying the lessons gained from a feasibility report can significantly lower the project costs. Feasibility study permits planners to outline their ideas on paper before implementing them. This can reveal errors in project design, before their implementation negatively affects the project. The study also presents the risks and returns associated with the project so the prospective members can evaluate them. There is no correct rate of return a project needs to obtain before a group decides to proceed. The acceptable level of return and appropriate risk rate will vary case to case depending on industry, size of investment, geographical location, government policies, changes in market conditions, changes in economic factors etc
- 4.2.4 The study is not conducted as a forum merely to support a desire that the project will be successful. It is rather an objective evaluation of the project's chance for success. Studies with both positive and negative conclusions can assist a group's decisions. Even conclusion to drop a project based on the study would substantially save the promoters' time, efforts and money.
- 4.2.5 The creation of a Feasibility study, although part of the project cycle, contains a process in itself. It consists of the following steps.

4.3. THE CONCEPTUAL STAGE

- 4.3.1 The conceptual study is the first level study and the preliminary evaluation of the construction project. Often groups proceed directly to the feasibility study and overlook the importance in making the first decision with deliberation. Take the time to determine if a feasibility study is appropriate. Careful consideration whether to conduct a feasibility study will save much time and money and increase the study value once completed. Moreover if this decision is conducted thoughtfully, the group will probably have established a procedure for decision-making. Then the decisions that the group needs to make later in the development process will probably come easier and the likelihood of it being correct will be greater.



- 4.3.2 The principal parameters of the conceptual study are mostly assumed and/or factored. Accordingly the level of accuracy is low. Flow sheet development, cost estimation and construction scheduling are often based on limited data, test work and engineering design.
- 4.3.3 The result of a conceptual study typically identifies:
1. Technical parameters requiring additional examination.
 2. General features and parameters of the proposed project.
 3. Magnitude of capital and operating cost estimates.
 4. Level of effort for project development.
- 4.3.4 A conceptual study is useful as a tool to determine if subsequent studies are warranted. However, it is not valid for economic design making.

4.4. THE PRE - FEASIBILITY REPORT

- 4.4.1 Prior to initiating a feasibility report, the group needs to sketch out possible design of the project. This can begin with the “back-of-the-envelope” calculations and proceed through a formal pre-feasibility study for complex projects. The purpose of this phase is to establish whether a project looks likely to happen and calculate the potential cost of carrying out the full feasibility study. It also serves the purpose of initiating wider public interest. Sufficient work has to be completed to develop the project and processing parameters for equipment selection, consumables, flow sheet, production and development schedule.
- 4.4.2 The degree of detail carried out in the pre-feasibility study will be dependent on the nature and type of the scheme. The economic analysis from a pre-feasibility study is of sufficient accuracy to assess various development options and the overall project viability. However, these cost estimates and engineering parameters are typically not considered of sufficient accuracy for final decision making or bank financing.
- 4.4.3 At the end of the pre-feasibility stage, the promoting organization will have to make a decision on whether to proceed to the full feasibility study phase and will have the job of raising investment to carry this out. As the pre-feasibility study itself would take into account all salient aspects, it would enable the promoters to take proper judgment on the future course of action.

4.5. THE FEASIBILITY REPORT

- 4.5.1 The feasibility report represents the last step for evaluating a process for “go or no-go” decision and financing purposes. It presents a holistic view of the entire project. The principal parameters for a feasibility report are based on sound and complete engineering and design work.



- 4.5.2 Although all studies must start with certain assumptions, they must be closer to reality to give a value to the study. A feasibility study presents the environment where the project will occur and describe its scope. The description also includes the need for the project and how the group can accomplish the goals. The scope also includes the key elements of all aspects of the project. Potential reaction by competitors should be included in the study.
- 4.5.3 The study also includes the rationale for scenario selection. Both worst-case possibilities and optimistic scenarios are compared. Comparative results from scenarios are presented in tables. Possible economic outcomes should be a prominent part of a feasibility study. Operating costs and net revenues are factors that show if the project is economically viable. The study contains pro-forma balance sheets, operating statements, benefit-cost ratios, projected cash flows, and internal rates of return for the project. These are normally based on a projection extending up to the tenure of the term loans.
- 4.5.4 The study includes possible project risks for potential members and other investors, project technology, potential legal and governmental setbacks, management and labour resources and time-critical factors. Most importantly, the feasibility study enables members to make constructive, informed decisions on whether to proceed with, revise, or abandon the project.
- 4.5.5 Simply put the feasibility study is a formal technical report that is used by the company to determine whether the proposed project is capable of being developed at a sufficient return to justify the capital and managerial resources that must be committed to the project.
- 4.5.6 The level of accuracy for a Feasibility Report is higher than the pre-feasibility report. The objectives for the feasibility report is the same as those listed for the pre-feasibility report, but the level and detail and accuracy for each objective are stringent. Detailed calculations have to be worked out to develop the flow sheet development, equipment selection, consumables, power consumption, material consumption, drawing, construction schedule and capital and operating cost estimates.