Chapter 4
Technical Analysis

ABSTRACT

A comprehensive feasibility study should continue with a technical analysis if the market analysis, as explained in the chapter, defines a sufficiently large market share for the product to be manufactured through a foreign direct investment project. The technical analysis as the second stage of a feasibility study aims at determining whether or not the production of the marketable product is technically feasible in terms of what the production technology will be, how the production process is to be designed, and where the production site would be located in the country selected. This chapter covers topics and discussions about technical aspects of establishing a production facility. Thus, it answers the question of whether the production of a product that is determined to be marketable is technically possible and, if so, how the production facility should be designed. If the investment project is technically feasible, then an implementation plan through project programing techniques of network analysis is developed for both estimating the total cost of fixed investment and planning the establishment of the plant or factory required. Thus, at the end of the technical analysis stage, the use of project programing techniques is explained for planning the implementation of an investment project.
Technical Analysis

DETERMINING TECHNICAL DESIGN OF THE PRODUCT

Technical design of a product refers to defining technical specifications of the desired product for production. In the simplest sense of the term, at this first stage of the technical analysis an important engineering work is going to be carried out to determine how the marketable product as defined in the market analysis would look like technically. In other words, as it is often witnessed in practice, the technical specifications that engineers figure out or plan may not fit to the marketing characteristics of the product defined and described for the marketing strategy. Therefore, everything possible should be done to fit technical specifications to marketing characteristics so as to produce a marketable product just as defined in the market analysis. Otherwise, the product decided to be marketable may turn out to be an uncompetitive product. For this purpose, the technical specifications for a marketable product should be examined from the following two aspects:

1. **Functional Specifications:** In general, a product that is going to be produced has first to perform what it is expected to perform. Otherwise, there is no reason to purchase it. Likewise, the essential function of a product is to meet the need for which it is conceived. Therefore, a product has to be so designed that it should fulfill the need which it is expected to satisfy. Otherwise, whatever the other specifications are the product would not be successful in the market since a product is essentially bought for meeting a need. Furthermore, in fact, for any product that is to be purchased for satisfying a need, the degree of satisfaction, that is, the degree of accomplishing its function is indeed a promotional factor per se. In other words, the higher the degree of accomplishing its function the higher its competitive power in the market would be.

   Accordingly, functional specifications of a product have to be determined clearly as the technical standards and requirements of the product to be produced. For instance, if the marketable product of an investment project is a refrigerator, the functional properties showing that this refrigerator would hold in a certain amount of various kinds of foods, such as cheese, eggs, meat, vegetables, fruits, drinks, etc. as well as keep them cool properly have to be clearly determined first of all. That is, buyers should be convinced that
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