Chapter Two: Project Cycle

The different stages/phases through which a project passes is called the ***project life cycle.***

The main features and elements of this process are information gathering, analysis and decision making. The project cycle consist of various stages in which each stage, not only is grown out of the preceding ones, but also leads into the subsequent ones.

 What is project cycle?

Project Cycle: Is the various stage through which project proceed from inception to implementation.

1. It is a stage which project advance from inception to maturity stage.
2. The Project Analysis or appraisal is done in stage (Cycle) and should provide information on:
* Administrative feasibility, marketing, and technical appraisal;
* Financial capability;
* Expected economic contributions,
* Social objectives .
* Each stage follows the proceeding one and leads to the next.
* These different phases are identified by different institutions and authors. Some of the phases as identified by different authors are the following.

 The Baum Cycle (World Bank Procedures) (World Bank Project Cycle)

* Baum (1970) model is the first basic model of a project cycle which has been adopted by the World Bank.
* According to this model a project cycle consists of the following six stages.
	+ - Identification
		- Preparation
		- Appraisal and Selection
		- Implementation and supervision
		- Evaluation

**What does the World Bank do?**

* Lending for development projects.
* The Bank's main business is to lend for specific projects, carefully selected and prepared, thoroughly appraised, closely supervised, and systematically evaluated.
	1. **IDENTIFICATION**
* The first phase of the cycle is concerned with identifying projects that have a high priority, that appear suitable for Bank support, and that the Bank, the government, and the borrower are interested in considering earlier years, project identification as done, *largely in* response to proposals by governments and borrowers.
* Over the years, the Bank has encouraged and helped borrowing countries to develop their own planning capabilities and has also strengthened its own methods of project generation.
* Economic and sector analyses carried out by the Bank provide a framework for evaluating national and sectoral policies and problems and an understanding of the development potential of the country.
* They also assess a country's "creditworthiness“ for Bank
* This analysis provides the basis for a continuing dialogue between the Bank and a country on an appropriate development strategy, including policy and institutional changes for the economy as a whole and for its major sectors.
* It is then possible to identify projects that fit into and support a coherent development strategy, that meet sectoral objectives, and that both the government and the Bank consider suitable.
	1. **PREPARATION**
* After a project has been incorporated into the lending program, it enters the project pipeline, and an extensive period - normally one or two years - of close collaboration between the Bank and the eventual borrower begins.
* A "project brief” is prepared for each project, describing its objectives, identifying principal issues, and establishing the timetable for its further processing.
* It is difficult to generalize about the preparation phase because of the variables that abound: the nature of the project, the experience and capability of the borrower, the knowledge currently available, *the sources and* availability of financing for preparation, and the nature of the relationships between the Bank, the government, co-financers, and other donors that may be involved in the sector or project.

TECHNICAL ANALYSIS

* The Bank has to ensure that projects are soundly designed, appropriately engineered, and follow accepted agronomic, educational, or other standards.
* The appraisal mission looks into technical alternatives considered, solutions proposed, and expected results.

INSTITUTIONAL ANALYSIS

* “Institution building" has become perhaps the most important purpose of Bank lending.
* The creation of a sound and viable local "institution”,
* It covers the borrowing entity itself, its organization, management, staffing, policies, and procedures, and also the whole array of government policies that conditions the environment in which the institution operates.

ECONOMIC ANALYSIS

* Through cost-benefit analysis of alternative, project designs, the one that contributes most to the development objectives of the country may be selected.
* This analysis is normally done in successive stages during project preparation, but appraisal is the point at which the final review and assessment are made.
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FINANCIAL ANALYSIS

* Financial appraisal has several purposes. One is to ensure that there are sufficient funds to cover the costs of implementing the project.
* The Bank does not normally lend for all project costs; typically, it finances foreign exchange In addition, other co-financers, such as the European Development Fund, the several Arab funds, the regional development banks, bilateral aid agencies, and a growing number of commercial banks, are joining to an increasing extent in co-financing projects that, in many instances, are appraised and supervised by the Bank.

Therefore, an important aspect of appraisal is to ensure that there is a financing plan that will make funds available to implement the project on schedule.

* costs and expects the borrower or the government to meet some or all of the local costs.
	1. **IMPLEMENTATION AND SUPERVISION**
* The next stage in the life of a project is its actual implementation over the period of construction and subsequent operation.
* Implementation, of course, is the responsibility of the borrower, with whatever assistance has been agreed upon with the Bank in such forms as organizational studies, training of staff, expatriate managers, or consultants to help supervise construction.

The Bank's role is to supervise the project as it is implemented.

EVALUATION

* While supervision is, in part, a process of learning through experience, it is primarily concerned with that period in the project's life when physical components are being constructed, equipment purchased and installed, and new institutions, programs, and policies put in place.
* Once these stages are complete, and Bank funds fully disbursed, the level of supervision declines sharply. During the period of active supervision, attention tends to be focused on the problems of the moment.
* The bank’s independent operations evaluation department prepare an audit report and evaluate the project.
* In 1970, an evaluation system was established as the final stage in the project cycle.

 **The UNIDO model of project life cycle**

* The United Nations Industrial Development organization (UNIDO)is the most devoted institution towards the development and the standardization of the concept, context and content(CCC)of industrial project management system. According to the UNIDO approach documented in the UNIDO manual, the project development cycle comprises
* Each of these three phases is divided into several stages, some of which constitute important consultancy, engineering and industrial activities as shown below:

**1. Pre- investment phase**

* Opportunity study( identification of project ideas)
* Pre-feasibility study (preliminary project formulation , selection of alternatives)
* Feasibility study (techno-economical project back ground, final project formulation stage)
* Evaluation report ( decision making  about project availability)
* **2. Investment phase**
* Project design stage
* Construction stage
* Pre-production marketing stage
* Training
* Start-up stage
* **3. Operational phase**
* Replacement of equipment
* Development, invasion or liquidation
* Before dealing with pre –investment phase, the various stages of the investment and operational phases are considered since these impacts on the nature and scope of pre-investment studies. The project investment or implementation phase for a large industrial business project will be different as compared to that of a small non- industrial project.
* Assuming that a projected industrial activity involves the construction of a factory and the installation of machinery and equipment, the project investment phase could be divided in to the following stages:
* Project engineering designs
* Negotiations and contracting
* Construction and training and
* Plant start up
* An adequate importance should be given to the pre investment phase, because the success or failure of an industrial project ultimately depends upon the marketing, technical, financial and economic feasibility study findings and their interpretation. To reduce wastage of scarce resources, a clear comprehension of the sequence of events is required when developing an investment proposal from the conceptual stage by way of active promotional efforts to the operational stage.

**Pre-investment stage**

* It is a usual practice, project ideas must be elaborated in a more detailed study. However, formulation of the detail techno-economic feasibility study, that enables a definite decision to be made on the project, is a costly and time consuming task. Therefore, before assigning large funds for such a study, a preliminary assessment of the project idea must be made in a pre-feasibility study. This is just seeing that whether:
* All possible project alternatives are examined
* The project concept justifies the detail study
* All aspects are critical and need in-depth investigation
* The project idea is viable and attractive or not
* According to the UNIDO manual, the main stages of the pre-investment phase are as follows:
* Identification of investment opportunities  (opportunity studies)
* Analysis of project alternatives and preliminary project selection
* Project preparation( pre-feasibility and feasibility studies ) and
* Project appraisal and investment decision (appraisal report)
* These stages assist a potential investor in the decision making process and provide the base for project decision and implementation.

**a. opportunities studies**

* Identification of investment opportunities is the starting point in a series of investment related activities when potential investors (private or public) are interested in obtaining information on newly identified viable investment opportunities. The main instrument used to quantify the parameters, information and data required to develop a project idea into a proposal is the opportunity study. An opportunity study should identify investment opportunities or project ideas by analyzing the following factors in detail:
* Natural resources with high potential for processing and manufacture:
* Existing agricultural pattern that serves as a basis for agro-based industries:
* The future demand for certain consumer goods or for newly developed goods:
* Imports in order to identify areas for import substitution:
* Cost and availability of production factors:
* Possible expansion of existing industrial capacity to attain economies of scale and
* Export possibilities.

**b. Pre-feasibility studies**

* A Pre-feasibility study should be viewed as an intermediate stage between a project opportunity study and a detailed feasibility study. c and the intensity with which project alternatives are examined. The structure of a prefeasibility study should be the same as that of the detailed feasibility study. These two studies basically compile the information on the justification of the project. In a practical sense, the main components of the project feasibility report are:
* Executive summary
* Project back ground and history
* Market and plant capacity
* Location and site
* Project engineering works
* Factory, administrative and sale overheads
* Man power
* Project implementation
* Financial analysis and
* Project risk analysis
* The Objectives of conducting a prefeasibility study are:
* Conduct Preliminary project assessment
* Identify project alternatives
* Identify critical aspects that require special support studies such as project's design - product, technology, marketing and distribution, capital structure.
* Characteristics of the study:-
* Intermediate level of detail based primarily on secondary data between project opportunity study and a detailed feasibility study
* The difference being in the degree of detail of the information obtained and the intensity with which project alternatives are discussed.
* The structure of a pre-feasibility study should be the same as that of a detailed feasibility study.

**C. feasibility studies**

* A feasibility study should provide all data necessary for making the investment decision.
* The commercial, technical, financial, economic and environment prerequisites for an investment project should therefore be defined and critically examined on the basis of alternative solutions already reviewed in the pre-feasibility study. The results of these efforts strengthen a project whose back ground conditions and aims have been clearly defined, in terms of its control objective and possible marketing strategies, the possible market share that can be achieved, the corresponding production capacities, the plant location existing raw materials, appropriate technology and mechanical equipment and, location, existing raw materials, appropriate technology and mechanical equipment and if required an environmental impact assessment.
* The financial part of the study covers the scope of the investment, including the net working capital, the production and marketing costs, sales revenue and the return on capital invested. The final estimates on investment and production costs and its subsequent calculations of financial and economic profitability are only meaningful if the scope of the project is defined in order not to omit any essential part and its related cost. However, there is no uniform approach or pattern to cover all industrial projects of whatever type, size or category. The emphasis on the components varies from project to project. For most industrial projects, however, there is a broad format of general application-bearing in mind the larger the project the more complex will be the information required.
* The Objectives of conducting a feasibility study is to provide commercial, technical, financial, and economic information needed for investment decision making.
* Characteristics of the study:-
	+ Clear project concepts and criteria
	+ Comprehensive project design
	+ Reliable information often primary data
	+ Quantified prediction of performance
	+ Detail analysis with high confidence level
	+ Consistent and defensible conclusions
	+ Selection criteria

**d. Appraisal Report**

* When a feasibility study is completed, the various parties will carry out their own appraisal of the investment project in accordance with their individual objectives and evaluation of expected risks, costs and gain. Large investment and development finance institutions usually have formalized project appraisal procedures and usually prepare an appraisal report. This is the reason why project appraisal should be considered an independent stage of the pre-investment phase, marked by the final investment and financing decisions taken by the project promoters.
* The appraisal report will prove whether the pre production expenditures spent since the initiation of the project idea were well spent or not. Project appraisal, as carried out by financial institutions concentrates on the health of the company to be financed, the returns to be obtained by equity holders and the protection of its creditors. The techniques applied to appraise projects in line with these criteria center around technical, commercial, market, managerial, organizational, financial and if possible economic aspects of project.

**Investment (implementation) phase**

* The investment or implementation phase of a project provides a wide scope for consultancy and engineering work, first and foremost, in the field of project management. The investment phase can be divided into the following stages:
* Technological acquisition and transfer
* Detailed engineering design and contract, including tendering, evaluation of bids and negotiations
* Acquisition of land, construction work and installation
* Pre-production marketing, including the securing of suppliers and setting up the administration of the firm
* Recruitment and training of personnel and
* Plant commissioning and start-up
* Detailed engineering design comprises preparatory work for site preparation, the final selection of construction planning and time scheduling of factory construction, as well as the preparation of flow charts, scale drawing and a wide variety of layouts. During the stage of tendering and evaluation of bids, it is chiefly important to receive comprehensive tenders for goods and services for the project from a sufficiently large number of national and international supplies of proven efficiency and with good delivery capacity.
* This stage covers the signing of contracts between the investor on the one hand, and the financing institutions, consultants, architects and supplies of raw materials and required inputs on the other.
* The construction stage involves site preparation, construction of buildings and other civil works, together with the erection and installation of equipment in accordance with proper programming and scheduling. The personnel recruitment and training stage, which should proceed simultaneously with the construction stage, may prove very crucial for the expected growth of productivity and efficiency in plant operations. Plant commissioning and start up is usually a brief, but technically critical span in project implementation.

**Operational Phase**

* The problem of the operational phase needs to be considered from both short and long term view points. The short term view relates to the initial or commencement of production when a number of problems may arise concerning such matters as the application of production techniques, operation of equipment or inadequate labor productivity owing to lack of qualified staff and labor. Most of the problems have their origin in the implementation phase. The long term view relates to chosen strategies and the associated production and marketing costs as well as sales revenues. These have a direct relationship with the productions made at the pre-investment phase. If such strategies and projections prove faulty and remedial measures will not only be difficult, but may prove highly expensive.