
UNIT 2 PROJECT APPRAISAL TECHNIQUES

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2.1 INTRODUCTION

Dear Learners,

In this unit we will be discussing about project appraisal of CSR projects. The process of evaluating the justification for moving on with a project or plan is referred to as project appraisal. Project appraisal generally involves comparing alternative possibilities using economic evaluation or another decision analysis techniques. An accurate appraisal justifies project funding. It establishes the framework for delivery and evaluation and is a crucial instrument in decision-making. Fundamental inquiries concerning the need for finance and the value a project provides are made during the appraisal process. It can inspire trust that the money is being used wisely and assist in finding further funding for a project.

2.2 OBJECTIVES

After reading this unit, you will be able to

- Define projects
- Discuss project appraisal techniques
- Explain project cycle
- Discuss various tools used for financial appraisal of the projects.

2.3 UNDERSTANDING PROJECTS

Development is inevitable without projects. Projects are investment activities directed towards creation of capital assets that provide advantages over a long period of time. It is the smallest operational component that is designed and carried out independently in a national plan of development programmes.

For evaluation purposes, a project can be defined as a unit of investment for evaluation

reasons that can be distinguished from other investments technically, commercially and economically.

In CSR, projects mean CSR initiatives which are undertaken by the Board in pursuance of the recommendations of the CSR Committee as declared in the CSR policy of the Company.

2.4 PROJECT CYCLE

The project cycle is the logical progression of a project's planning and execution. Practically every large project goes through this seven-stage process: (1) **Identification:** the phase in which a project-idea is selected and defined from among various choices. (2) **Preparation:** A specified idea is carefully developed before moving on to the appraisal stage. (3) **Appraisal:** A project plan is created after a thorough and methodical review of every component of the project idea. (4) **Presentation:** A comprehensive plan is provided to the relevant entities for funding and approval. (5) **Implementation:** The project plan is carried out after receiving the required approvals and funding. (6) **Monitoring:** The project's advancement is evaluated against the plan at each stage. (7) **Evaluation:** The project is re-evaluated in terms of its effectiveness and performance after completion (Fig. 2.1).



Figure 2.1: The Project Cycle

Let us look at each of these stages in detail:

1. **Identification:** Finding potential projects is the first step in the cycle. Local leaders who are aware of the needs of the society, stakeholders who are likely to be affected by the project and the technical experts who know the needed inputs and other technicalities of implementing the project are best sources of suggestions in identifying the projects. Technical professionals will have found several areas where they believe fresh investment could be profitable while carrying out their professional responsibilities. Often, local leaders will have a variety of recommendations for potential investment

locations. Proposals to expand current programmes can potentially inspire new ones.

2. **Preparation:** Following the identification of projects, efforts are required to prepare the project to get it to the point where appraisal can be done and, if it is found to be a good project, implementation may start. A feasibility study is typically the initial phase in the preparation stage of a project and will provide you enough data to decide whether to move forward with more detailed planning. The amount of information already available about the proposal will determine the detail of the feasibility study. Sometimes a series of more in-depth feasibility studies may be needed. The project's goals should be clearly stated in the feasibility study. It should specifically address the possibility of better ways to accomplish the same goals, and it will give project planners the ability to rule out undesirable options. With the help of the feasibility study, it will be possible to modify the project to better fit its physical and social context. Careful planning increases a project's efficiency and smoothly implementation.
3. **Appraisal:** It is usually appropriate to conduct a critical review or an independent appraisal after a project has been developed to ascertain whether the proposal sound and if it is viable to invest money in the project. The appraisal process comes after project planning and preparation; however, additional information could be needed by the assessment experts to take a final call. If the evaluation team concludes that the project proposal is sound, the investment may proceed. However, if the evaluation team spots serious issues, the analyst might need to alter the project strategy or come up with something new.
4. **Negotiation:** At this stage, the fund giver and the receiver agree on measures necessary to ensure the success of the project. Generally, these agreements are converted into legal documents. The drafting and negotiation of the legal documents are an essential part of the process of ensuring that the funder and the implementation agency are in agreement, not only on the broad objectives of the project but also on the specific actions necessary to achieve them and the detailed schedule for project implementation. After negotiations, the appraisal report is amended to reflect the agreements reached.
5. **Implementation:** Project implementation is the most important part of the project cycle. The more realistic the project plan is, the better will be the implementation. The project plan should be flexible enough to accommodate any changes. The project's implementation strategy will change in accordance with the political or economic climate in which it operates. Project managers will need to restructure and replan specific project components, or perhaps the entire project, while it is being implemented.
6. **Monitoring:** Reviewing a project's execution is the process of project monitoring and control. During the project life cycle, it takes place concurrently with project execution. You can actively ensure that work is done on schedule, within budget, and by the deadline by actively monitoring a project in real time. Project monitoring involves constant examination of your initiatives. Even the best projects never proceed exactly as expected. As a result, it's crucial to consistently compare the actual state and the

desired state. Only then can you notice deviations in time and take actions. Monitoring Key Performance Indicators (KPIs) is crucial during the project monitoring and controlling phase to make sure your team is moving in the right direction.

7. **Evaluation:** Evaluation is the last stage of the project cycle. In order to improve future planning, the analyst conducts a thorough analysis of the project's success and failure factors. Evaluation doesn't just apply to finished projects. It is a crucial management tool for continuing projects, and rather systematic evaluation may occur numerous times throughout a project's lifespan. When a project is having problems, evaluation may be carried out as the first stage in a re-planning attempt. Each attempt to design follow-up projects should be preceded by careful review. Finally, evaluation needs to be done once a project has been completed or is operating normally.

2.5 PROJECT APPRAISAL: MEANING AND TYPES

Throughout the planning and allocating phases of capital investment, project appraisal and project selection are crucial tasks. Selecting initiatives that produce the maximum social and financial returns requires effective appraisal, which assists decision-making for optimizing project design and impact. Project appraisal performs a gate keeping function by assuring that only socially and economically feasible projects advance to the implementation stage. Also, effective evaluation and selection processes boost the likelihood of maximizing net benefits to the society.

2.5.1 Meaning and Importance of Project Appraisal

Project appraisal is an analytical process of determining whether a project or proposal is viable or not. Before allocating money to a project, it entails determining its viability. It is a tool that businesses use to select the best project that will help them reach their objective. In order to compare different possibilities, project appraisal frequently entails using any decision technique or economic appraisal technique.

Thus, we now understand that project appraisal refers to an evaluation of a project that may be performed for both planned and implemented projects. Cost-benefit analysis of projects is carried out with the goal of determining the viability of the proposed project. To determine whether investing resources in a project would be worthwhile, its feasibility must be determined. The best project can be chosen with the aid of project appraisal.

whenever evaluating a project. The economic, technical, financial, management, market, and social components of a project are examined during evaluation.

The following are a few of the reasons why project appraisal is carried out:

1. To choose the most viable project;
2. To assess the creditworthiness of projects;
3. To evaluate the profitability of projects;
4. To evaluate the project's cost and benefits;
5. To assess the number of resources need to complete the project;

6. To determine the likely need for fixed and operating capital;
7. To foresee a potential market for the product;
8. To evaluate the capability of the management team to manage the project;
9. To evaluate the availability of different production components;
10. To help in social audit of the project.

2.5.2 Types of Appraisals

There are different types of appraisals like technical, financial, economic, legal and organizational. In this section we will be discussing these types in brief and in the next section, we will discuss the various techniques of financial appraisal in detail.

1. **Technical Appraisal:** Evaluates the technical specifications to see if they are well-conceived, practical, and technically achievable. Technical feasibility analysis entails collection and analysis of data pertaining to technical inputs required for the project and drawing conclusions from such analysis. Depending on the type of project, technical analysis will look at the availability of the following: raw materials, machinery, hard/software, power, sanitary and sewerage services, transportation infrastructure, skilled labour, engineering resources, maintenance resources, local residents, etc.
2. **Institutional Appraisal:** Ascertains whether the implementing agencies are capable of successfully implementing, monitoring, and evaluating the project. The implementing agency must possess the managerial skills, integrity, and project-specific knowledge necessary to successfully develop, carry out, and run the entire project. To determine the agency's capacity to manage the projects, their prior performance must be evaluated. Besides the implementing agency, the government agencies, project authorities, corporate entities, land tenure systems, financial and credit organizations, religious customs, practices, and social mores are a few of the components that make up the institutional framework. It's also important to comprehend the administrative structure of the region where the project will be implemented.
3. **Commercial Appraisal:** The plans for selling the project's output and securing the supply of the inputs required for the project's operation are considered the commercial components of a project. It is necessary to determine the pricing that might apply in demand and supply circumstances as well as the actual demand for the project's output. The analyst must also carefully assess the effects of product supply on product price as well as the viability of the project in light of the altered price environment.
4. **Environmental Appraisal:** This is done to determine any negative environmental effects and how to lessen such effects. Concerns about the project's environmental impact are raised during the environmental appraisal.
5. **Legal Appraisal:** This entails Identifying whether the project complies with all applicable legal requirements, including those for land purchase (if any), title deed, environmental clearance, etc.
6. **Financial Appraisal:** Assesses the project's financial viability and the accuracy of the estimated financial costs and returns. Financial analysis of

a project is a major factor in decision-making regarding taking on any project. Any project must include a separate financial analysis for each of its potential beneficiaries and collaborating organizations.

Check Your Progress 1

Note: a) Write your answer in about 50 words.

b) Check your answer with possible answers given at the end of the unit

Q.1 List out the different stages of a project cycle.

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Q.2 What do you understand by environmental appraisal?

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2.6 FINANCIAL APPRAISAL TOOLS

The financial appraisal criteria can be divided under two heads:

(1) Non-Discounting Technique

- Urgency
- Payback Period
- Accounting Rate of Return
- Debt Service Coverage Ratio

(2) Discounting Criteria Technique

- Net Present Value

- Benefit Cost Ratio
- Internal Rate of Return
- Annual Capital Charge

Now we will discuss each of the techniques in detail

2.6.1 Non-Discounting Techniques

i. Urgency

As per this criterion, the more urgent projects take precedence over the less urgent ones. To evaluate the urgency of any project, nevertheless, is one of the issues with applying this criterion. The decision made could be influenced by the decision maker's personal prejudice. This method is however not recommended for investment decision-making due to this constraint.

ii. Payback Period

Amount of time needed to recover the initial financial investment made in a project is called the payback period. The payback period is determined by dividing the initial outlay by the annual cash inflow, assuming that the cash inflows are constant.

Decision making: A project having a shorter payback period is more. The maximum permissible payback period is typically specified by the enterprises using this criterion.

iii. Accounting Rate of Return

The commonly used measures of accounting rate of return are:

- 1) $\frac{\text{Average income after tax}}{\text{Initial investment}}$
- 2) $\frac{\text{Average income after tax}}{\text{Average investment}}$
- 3) $\frac{\text{Average income after tax but before interest}}{\text{Initial investment}}$
- 4) $\frac{\text{Average income after tax but before interest}}{\text{Average investment}}$
- 5) $\frac{\text{Average income before interest and taxes}}{\text{Initial investment}}$
- 6) $\frac{\text{Average income before interest and taxes}}{\text{Average investment}}$

Decision making: The higher the accounting rate of return, the better the project

vi. Debt Service Coverage Ratio

The viability of long-term financing projects can be assessed using the debt service coverage ratio.

Debt Service Coverage Ratio = [net profit + interest (on long term loan) + depreciation] / [interest (on long term loan) + principal loan].

Decision making: Financial institutions often consider a debt service coverage ratio of two to be satisfactory.

2.6.2 Discounting Techniques

i. Net Present Value (NPV)

NPV is the difference between the present values of cash inflows and outflows. In capital budgeting, NPV is used to assess the profitability of a project or an investment. NPV analysis depends on future cash inflows that a project or investment will produce.

$$NPV = \sum_{t=0}^n \frac{(Benefits - Costs)_t}{(1 + r)^t}$$

Where,

r = discount rate

t = time

n = period (in years)

Decision Making: A potential project should be approved if its NPV is positive. Cash flows will likewise be negative if NPV is negative, hence the project should generally be rejected.

ii. Internal Rate of Return (IRR)

Internal rate of return is the discount rate that results in a net present value of zero for all cash flows from a certain project. IRR can therefore be used to rank various CSR projects that a company is thinking about. Other parameters remaining the same among various projects in hand, the project with the highest IRR would be considered as the best and would be taken up first.

“Economic rate of return (ERR)” is another name for IRR. In the equation, the discounted rate r which results in the net present value equal to 0 is the internal rate of return:

$$0 = \frac{CF_0}{(1 + r)^0} + \frac{CF_1}{(1 + r)^1} + \dots + \frac{CF_n}{(1 + r)^n} = \sum \frac{CF_t}{(1 + r)^t}$$

CF_t = cash flow at the end of the year t

r = discount rate

n = life of the project

In the internal rate of return, we set the net present value equal to zero and determine the discount rate which would also be the internal rate of return.

Decision Making: In general, a project’s internal rate of return determines how desirable it is to proceed with it. The project with the highest IRR would likely be regarded as the best.

iii. Benefit Cost Ratio

Benefit cost ratio is a measure of the total value for money of a project and is commonly used in the formal field of cost-benefit analysis. A project's or proposal's BCR is the ratio of a project's benefits and costs, both expressed in monetary terms. Discounted present values should be used to indicate all gains and costs.

The benefit-cost ratio (BCR) is the comparison of total benefits to total costs, both appropriately discounted. The formula for calculating *BCR* is:

$$BCR = \frac{PV_{\text{benefits}}}{PV_{\text{costs}}}$$

Where'

PV_{benefits} = Present Value of benefits

PV_{costs} = Present Value of costs

Decision making: If BCR is >1, the project should be accepted and would be beneficial.

If BCR =1, we interpret it as being indifferent.

If BCR <1, the project should be rejected.

Check Your Progress 2

- Note:**
- a) Write your answer in about 50 words.
 - b) Check your answer with possible answers given at the end of the unit

1. What do you understand by payback period?

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2. What is the decision rule if you use BC Ratio as your project appraisal tool?

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2.7 LET US SUM UP

Projects are the cutting edge of development. It is important to know the feasibility of any project before it is implemented. Project appraisal is an important tool which helps in assessing the technical, institutional, environmental, legal and financial feasibility of any project. In this unit we discussed about the meaning of projects. Any project when taken up undergoes various stages from identification to completion and evaluation. In this unit we also discussed about the various stages of a project cycle. Before the initiation of any project, it is important to assess its feasibility. This unit has also introduced you to various aspects in which a project is appraised. As funds are involved in all projects and it is important to know the financial feasibility of any project, before it is taken up for implementation, in this unit we have also introduced you to various discounting and non-discounting financial appraisal techniques.

2.8 KEYWORDS

- Project** : According to UNIDO, a project is a proposal for an investment to build and develop specific infrastructure in order to boost the production of products and services in a community over the course of a specific amount of time.
- Project Cycle** : The project cycle is the logical progression of a project's planning and execution.
- Project Appraisal** : The process of determining a project's viability is known as project appraisal. An appraisal includes a thorough examination of the basic details, assumptions, and methods used in the project preparation, a close examination of the work schedule, cost projections, and planned funding, an evaluation of the project's organisational and managerial features, and ultimately a determination of the project's viability.

2.9 REFERENCES AND SELECTED READINGS

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3. Bhattacharya, H. (2011). Project Appraisal Methods and Techniques. In *Banking Strategy, Credit Appraisal, and Lending Decisions: A Risk–Return Framework* (2nd edn). Oxford Academic.
4. Varghese, N. (2021). Project Assessment. CSR Projects and Programmes. IGNOU.

2.10 CHECK YOUR PROGRESS – POSSIBLE ANSWERS

Check Your Progress 1

Answer 1: There are seven stages of a project cycle. They are: (1) Identification: the phase in which a project-idea is selected and defined from among various choices. (2) Preparation: A specified idea is carefully developed before moving on to the appraisal stage. (3) Appraisal: A project plan is created after a thorough and methodical review of every component of the project idea. (4) Presentation: A comprehensive plan is provided to the relevant entities for funding and approval. (5) Implementation: The project plan is carried out after receiving the required approvals and funding. (6) Monitoring: The project's advancement is evaluated against the plan at each stage. (7) Evaluation: The project is re-evaluated in terms of its effectiveness and performance after completion

Answer 2: Environmental appraisal is done to determine any negative environmental effects and how to lessen such effects. Concerns about the project's environmental impact are raised during the environmental appraisal.

Check Your Progress 2

Answer 1: Amount of time needed to recover the initial financial investment made in a project is called the payback period. The payback period is determined by dividing the initial outlay by the annual cash inflow, assuming that the cash inflows are constant.

Answer 2: Decision rule for BC Ratio is that:

If BCR is greater than 1, it would be beneficial to accept the project

If BCR is equal to 1, can be interpreted as being indifferent.

If BCR is less than 1, the project should be rejected.