

Chapter I. An Overview of Project and project life cycle

The basic concept of project

- ✦ *The concept of project planning has originated some 70 years ago.*
- ✦ *It appeared in USA and former Soviet Union in late 1930s*
- ✦ *It has been widely adopted particularly in the external funding agencies who finance public sector projects.*
- ✦ *The last 40 years an extensive application of project analysis methods particularly in developing countries were observed.*
- ✦ *Currently managing a project is becoming exciting new profession.*

Concepts of Project (con...)

Project managers are in great demand. They are highly demanded nearly everywhere

- *Publishing house*
- *University*
- *Agricultural rural development*
- *Social works*
- *Individual construction projects and the like*

□ *It appears that they are required wherever there is work*

□ *Any one holding a responsible position in a project is a **project manager***

□ *and if he pursues his own style in discharging his project management responsibilities, he can hardly be blamed*

Because what a project manager does in one company is not the same as what another does in another company

Concepts of Project (con...)

- *In order to understand issues related to project, we must first understand what a project really is.*

It is common to hear

- *Cement project*
- *Power project*
- *Refinery project*
- *Road project, Etc.*

- ⌘ *While the term project is common to all of them, the plants are not.*
- ⌘ *In each cases the project is for the plant. Which means as soon as the plant is operational the project is deemed to be completed.*
- ⌘ *The same is true for any other projects, say for a project for method improvement. The project is completed when method improvement has been achieved.*

Concepts of Project (Cont...)



For better understanding let us summarize how a project is conceived first,

- ✦ *In a business setting an organization must grow at least for the **sake of its survival***
- ✦ *The organization is therefore, continuously on the look out for good business idea which ensure growth either on
 - *Existing line of business or*
 - *Diversified area**
- ✦ *However, the idea must be
 - *Technically feasible*
 - *Economically viable*
 - *Politically suitable and*
 - *Socially acceptable*
 - *Environmentally sustainable**
- ✦ *Once the idea pass these test then an investment proposal is made. When the investment proposal is approved the project commences.*

The concepts of Project (Cont...)

Thus, a project is initiated to achieve a particular mission.

- What ever the mission may be, the project is completed as soon as the mission is accomplished.*
- The project lives between these two cut-off points. The time span is known as project life cycle.*

Definition of Project

What is project?

No definition of project will suit every situation. In other words there are a number of ways to define a project.

- ✦ Project is in general a building block of an investment plan.*
- ✦ A project can be described as a combination of human and material resources pulled together in an organization to achieve a specific objective.*

Definition of Project (Cont...)

According to USA Project Management Institute,

“Project is a one shot, time limited, goal directed, major undertaking, requiring the commitment of varied skills and resources”

- *It also describes a project as “a combination of human and non-human resources pooled together in a temporary organization to achieve a specific purpose.”*
- *“Project is an effort that starts from scratch with a definite mission, generate activities involving a variety of human and non-human resources all directed to words fulfilment of the mission and stops once the mission is fulfilled.”*

Def. of Project (Cont...)

ISO-8402. (ISO document define project as)

“A unique process consisting of a set of coordinated and controlled activities with start and finish dates, undertaken to achieve an objective conforming to specific requirement including constraints of time, cost and resources”

A project is neither a physical nor the end result. It has something to do with the activities that go on

Def. Project (Cont...)

From the above all definitions we can learn that

- *A project is an economic/development activity*
- *It requires a commitment of scarce resources*
- *It brings some benefit from its accomplishment*
- *The benefit should exceed its cost*

- *Implementation of a project needs resources or inputs.*
- *Every project converts the given inputs into outputs through the process of implementation*
- *The out puts in the short run lead to outcomes while in the long run it will result in impact*

Characteristics of Project

A project is a big-work. It is basically a work of one whole thing

This means that while there may be contribution from many people, it can be regarded as one whole thing.

A comparison can be made with a book

- ✚ *There may be many chapters in the book sometimes written by different authors (which can be considered as sub-project), the book is a single entity and is supposed to serve a single purpose.*
- ✚ *The various work that constitute the whole are inter-related and together they tell the whole story.*

Characteristics of Project (cont...)

- ✦ *In the same way all works that are interrelated can be grouped together and termed as a project*
- ✦ *Thus, with project there is a concept of*
- *Wholeness despite diversity of work,*
 - *The wholeness concept does exist in a factory or any organization in any other work, But, in case of a project the whole has to be completed in one-shot (once for all)*
- *There is a missionary zeal, an unknown force, pushing people forward for achievement of something beyond their immediate work,*

Characteristics of Project (cont...)

The special feature of project that differentiate it from any other ongoing activities, are

- ❏ **Objective:** *A project has a fixed set of objectives. Once the objectives are achieved the project ceases to exist*
- ❏ **Life span:** *A project can not continue endlessly. It has to come an end at one time.*
- ❏ **Single entity:** *A project is a single entity and is normally entrusted to one responsibility centre, while participants in the projects are many.*
- ❏ **Team work:** *Any project calls for team work-. The team members may be from different*
 - *discipline,*
 - *organization,*
 - *and even country*
- ❏ **Life cycle:** *A project has a life cycle reflected by growth, maturity and decay.*

Characteristics of Project (cont...)

- # **Uniqueness:** *No two projects are exactly similar even if the plants are exactly identical or are duplicated.*
 - *the location,*
 - *the infrastructure,*
 - *the agencies and*
 - *the people make each project unique.*
- # **Change:** *A project sees many changes through out its life while some of these changes may not have any major impact, there can be changes which will change the entire course of the project.*
- # **Unity in diversity:** *A project is complex set of verities. Varieties in terms of*
 - *Technology*
 - *Equipments and material*
 - *People and machinery*
 - *Work culture and ethics*

But they remain interrelated

Characteristics of Project (cont...)

- *High level of sub contracting* : A high percentage of a work in a project is done through contractors The more complex is a project, the more will be the extent of contracting
- *Risk and Uncertainty*: Every project has a risk associated with it.
The degree of risk and uncertainty will depend on how a project has passed through its various life cycle.

Project Vs program

- ❏ *A project is normally originated from a plan which can be a national plan or corporate plan.*
- ❏ *In many cases the term project is used for what should be termed as program or work package.*
- ❏ *Some people use the term 'project' and 'program' interchangeably. However, there is a quite difference between the two.*

Program

Program in general is a groups of related projects that are managed in a coordinated ways to achieve certain objective. Any development plan can be considered as a program

A program is thus,

- larger in scope,*
- activity oriented*
- not necessarily time bound and*
- its objectives are broader*

Program (Cont ...)

Example,

- # *The national goal: Poverty Eradication*
- # *Strategy: Increase productivity (in all sectors)*
- # *Development program: Increase agricultural productivity*

This may result in a number of projects like,

- # *Construction of dams (irrigation infrastructure)*
- # *Upgrading the skill of agricultural practices*
- # *Construction of training centers*

Health program may have a number of projects like,

- # *Construction of hospitals*
- # *Training of health officers*
- # *Expansion of health centres*

Program and Projects hierarchy

Plan : National, Regional or company plan with development target



Program: Specific program within the frame of national or regional plan (health, education)



Project: School project, Power plant or housing project



Work Package : Water supply and distribution package, Power supply and distribution package



Task: Award of water supply contract, Construction of foundation



Activity

Classification of Project

Revenue Vs capital project

Project can come in many size and form. They may be very simple or complex. Major project types are two. These are,

- **Revenue project:** *Are those which can be carried out within the normal organizational structure and normally will be completed within the a single accounting period.*
- **Capital Project:** *Are those which can not be carried out within the normal organizational structure and are normally stretched over a number of accounting periods.*

In practice many projects fall between these two broad categories

Classification of Project (cont ...)

- ✦ *Capital project always require considerable capital investment. The main feature of capital projects are,*
 - *They usually occupy considerable time*
 - *They usually employ huge capital investment*

As a result they do not fit readily into conventional organizational structure but cut across functional and time boundaries and thus, require an organizational structure particular to themselves.

- ✦ *When we say project we are mainly referring to the capital projects.*

Classification of Project (cont ...)

- # *In general projects be it revenue or capital can be classified from different perspectives.*
- a) *On the basis of time horizon project can be*
 - *Long term projects : Power plant project*
 - *Medium term projects : Construction of a factory*
 - *Short term project: Exhibition, trade fair*

Classification of Project (cont ...)

b) On the basis of the type of output:

- *Project producing tangible Products : Oil mill*
- *Project providing services: Telecom project, Education etc.*

c) On the basis of the scope of the project:

- *International project : Euro tunnel project*
- *National Project: Eth Hydro power project*
- *Regional Project: Elementary school project*

d) Based on the economic sector:

- *Agricultural project: Irrigation project*
- *Industry project : Cement Project*
- *Service sector project : Bank projects*

Classification of Project (cont ...)

e) On the basis of technology:

- *Capital intensive project : Brewery project*
- *Labour intensive project : Textile industry project*

f) Based on location :

- *Rural Projects*
- *Urban project*

g) On the basis of the nature of the project

- *Independent project : Hospital, Hydroelectric power*
- *Complementary project : Airport project, Run Way and airport services are different projects which are complementary to each other.*

Planning An overview

How project planning differs from organizational planning?

- # As we have seen earlier the project comes from the national / organizational plan (program).*
- # Where as project planning is one element of the project management.*
- # One of the major function of project management is Project planning.*

Thus, planning is a broader concept and its basic concepts are summarize as follows

Concept of planning (revisited)

A nation or institution or business organization can succeed when it determines in advanced

- *Its objectives, and*
- *Methods and resource for achieving them*

■ *Planning is one of the function of management which involves,*

- *looking into the future,*
- *Anticipating it,*
- *and attempting to influence it through anticipatory decisions, in order to achieve the desired goals.*

Concept of planning (Cont...)

In other words it involves

- # determination of objective,*
- # formulations of programs and courses of actions for their attainment,*
- # development of schedules and time of action,*
- # and assignment of responsibilities for their implementation.*

Concept of planning (Cont...)

Planning is a process through which one attempts to determine;

- 1. What will be done? What are the objectives of things in short run and long run?*
- 2. What resources will be required? This involves assessing the available resources, estimating resources required to achievement the objectives, and filling the gap between them.*
- 3. How it will be done? This involves two things:*
 - a) Determination of tasks, activities, projects, programs etc required for attainments of objectivities and*

Concept of planning (Cont...)

6) Formulations of

- *structures,*
- *policies,*
- *procedures*
- *methods,*
- *standards and budgets for attainment of the above purpose.*

4. Who will do it? It involves assignments of responsibilities to parties involved.

5. When it will be done? It involves determination of the time and sequence, for each activity planned to be carried out

Planning is also essential pre requisite for the performance control as it provides base line for evaluating performance.

Nature of planning

■ *Planning is continuous and dynamic process. The essential nature of planning can be understood by focusing on the following aspects*

***A. Planning is a continuous process.** Planning deals with future which involve uncertainty. The planner base his plan on intelligent estimation or prediction. At any point in time if there is a change the planner adjusts his plan in response to this changes .*

***B. Planning concerns all managers and workers.** Planning is not a task of a specific unit. Every unit in any organization is expected to be involved in the planning process.*

Nature of planning (cont...)

C. Plans are arranged in a hierarchy. it is prepared at organizational level initially and then it broken down to lower units or components:

- *sectors, or (organization),*
- *departments*
- *sub section and*
- *to persons or individual worker.*

D. Planning commits an organization into the future. It commits an organization / country to future, as past, present and future are tied in a chain. The present strategies, policies, objectives continue to have impact in the future.

Steps in planning

The planning process comprises of a number of steps. There are:

*i. **Forecasting.** It is an intelligent estimation and prediction of the future internal and external environment.*

■ These forecasts is relate to aspects like,

- economic condition,*
- technology,*
- population structure and growth,*
- social norms and value,*
- political and legal conditions*
- and so forth.*

■ Forecast only provide data for planning, and do not produce any plan.

Steps in planning (Cont ...)

- ii. Determination of objectives. Any plan starts with clearly defined objective*
- ⌘ Objectives are broad statements that an organization or country wants to attaining in the future.*
 - ⌘ Objective provides rational for the existence of an institution*
 - ⌘ Objective provides the basis and direction for the performances of all other management functions:*
 - ⌘ Objective uplift the moral of the employees and motivate them;*
 - ⌘ Objective serves as criteria for evaluating decisions*
 - ⌘ Objective provides a basis for control and evaluating performances against predetermined standards.*

Steps in planning (Cont ...)

The most common objectives:

- ❏ ***Survival:*** The basic objective of all kinds is to survive or to stay a live,
- ❏ ***Growth:*** This objective provides with opportunities for advancement, gives the managers a sense of pride and achievement,.
- ❏ ***Profit:*** For business enterprises making profit is the principal objective where as for public institutions maximization of social welfare is the deriving force.
- ❏ ***Productivity enhancement:*** This is related to resources utilization and reducing input - output ratio.
- ❏ ***Innovation:*** The objective of the organization may be to come up with the new technologies of production or new product to the customers.

Steps in planning (Cont ...)

iii. Means for attainments of planned objectives

The instruments of planning are

- *strategies,*
- *policies,*
- *rules,*
- *procedures,*
- *Budget*

Steps in planning (Cont ...)

Strategies:

- It may be any decision or action taken after taking into account the probable or actual actions, policies and strategies of competitors, suppliers, etc
- Strategies differ from policies as it *focus on action, where as policies provide guideline for decision and action*
- Strategies also differ from tactic. *Tactics represent a spontaneous and short term decision to solve an unforeseen problem that emerges suddenly, where as strategies are long-range plans aimed at goal achievement.* Strategies and policies reduce the need for tactical decision making.

Steps in planning (Cont ...)

Policies: Policies are a guide to decision making.

- ⌘ *They establish the broad framework within which managers operate at various levels*
- ⌘ *Policy also set limits within which the decision maker can operate*
- ⌘ *It channels all decisions towards the achievement of predetermined goals by providing a framework for decision makings.*
- ⌘ *Moreover, it ensure that all decisions are consistent, uniform, and viable.*
- ⌘ *Furthermore, it also provides criteria for evaluating decision.*

Steps in planning (Cont ...)

Rules:

Rules prescribe behavior, and define what should and what should not be done.

- ✦ It does not provide any discretion*
- ✦ It does not provide any exceptions.*
- ✦ It requires no decisions, but only enforcement.*
- ✦ Rules are also associated with penalties for violation*

Steps in planning (Cont ...)

Procedures: Procedures are sequences of steps involved in making decisions and performances of activities.

- ✚*** Like strategies and policies, they aim at laying down mechanisms for orderly performances and coordination of various organizational activities so as to avoid random actions and operations.

Steps in planning (Cont ...)

Budget

- ❏ *Budgets are the most widely used instrument of planning as well as control.*
- ❏ *They are quantitative in nature and usually called numerical plans.*
- ❏ *Budgets are the most precise and important tools of planning as they show the needs of financial and non financial resources.*
- ❏ ***Financial budget:**— it is related to expenses for activities which includes revenue and expenses*
- ❏ ***Non-financial budget:-** includes material budget, sales budgets, manpower budget, direct-labor hour's budgets... etc.*

Steps in planning (Cont ...)

iv. Determination of resources

Once means to achieve the objectives are clearly specified , the next step in the planning process is the determination of resources that would be required for their implementations. These resources are of four types;

1. Financial resources:- money necessary for the activities planned. It involves an estimation of ;

- *availability of financial resources*
- *requirement of material resources*
- *needs for additional resources*
- *methods of raising needed resources*
- *allocation of financial resources for the implementation of various functional plans*

Determination of resources (Cont. . .)

2. *Equipment and facilities planning.* Equipment and facilities planning related to aspects such as technology to be used, size of the plant, its location and layout.
3. *Materials and supplies planning:* It involves
- *identification of the types of materials required,*
 - *quantities amount required*
 - *availability of materials,*
 - *their costs,*
 - *handling,*
 - *transportation, and so forth.*

Determination of resources (Cont. . .)

4. **Personnel planning.** Personnel planning related to the requirement and availability of various types of manpower resources and it's up grading system.

✚ It also involves the allocation of manpower resources for the implementation of various functional plans

In all cases the realistic resources planning is critical to the success of the total planning effort

Steps in planning (Cont ...)

v. Implementation of plans

Plans will not produce any results if not implemented effectively.

- # It only provides directions to effort and the path for the accomplishment of the desired goals.*
- # Strategies, policies, programs, project, and budget, constituting the instruments of planning, should be implemented effectively in order to ensure the maximum utilization of resources for the achievement of predetermined objectives.*

Steps in planning (Cont ...)

The following steps are suggested for effective implementation of plan:

- a) Planning communication should be done in group in such a way that every body understands the plan.*
- b) Participation of all those who are responsible for implementation of plans should be involved in the process of their preparation.*
- c) Review and adjustment*
- d) Assignment of responsibility and delegation of authority*
- e) Measurement of performances*
- f) Motivation of employee*
- g) Leadership for implementation*

Advantage of planning

The major advantages of planning are:

- It provides base for cooperative and coordinated efforts.*
- It makes coordinated and goal directed effort possible for formulating strategies, policies, rules, procedures, budgets, standards and methods etc.*
- It enables us to capitalize opportunities and face challenges.*
- It proved a basis for allocation of resources among programs, projects and activities and hence promotes efficiency.*
- It provides criteria for decision making and controlled timely execution of tasks.*
- They provide the framework for making decisions on problems of a recurrent nature.*

Disadvantages of planning

The major limitations of planning are:

- ⌘ ***Uncertainties of the future:** This make the plan itself uncertain*
- ⌘ ***Premium on the present:** That is present is always more real than the future, and present problems seem to be more urgent than future problems. Many of us are inclined to take care of today and hope that tomorrow will take care of itself.*
- ⌘ ***Past decisions acts as a barrier to future planning** particularly decisions involving commitment of substantial financial resource in a fixed assets like building, etc impose serious limitation on planning.*
- ⌘ ***Administrative problems.** The executives' perception to planning and reluctance to changes that may adversely affect planning.*

Disadvantages of planning (Cont...)

- *External conditions often, impose serious limitations on planning. Some of external conditions may be :*
 - *Policies of governments,*
 - *Rapid change in technology*
 - *consumer tastes and preferences are some of the external factors that may affect the its realization.*

- *Expense and Timely information.* The time factor puts constraints on comprehensive planning. Search for information, location of alterative sources and their comparative evaluation is costly and time consuming process.

Disadvantages of planning (Cont...)

The above limitations of planning point out the complexities and problems involved in the planning process. However, they do not by any means diminish the importance or need of planning