CHAPTER V
PROJECT IMPLEMENTATION, MONITORING AND EVALUATION

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Introduction:

A project implementation phase of a project provides wide scope for consultancy and engineering work, first and frameset in the field of project management. This chapter, concerned with various issues relating to project management is divided into five sections.

5.1Form of Project Organization
5.2 Project Planning
5.3 Project Control
5.4 Human Aspects of Project Management
5.5 Pre-requisites for successful Project Implementation.

5.1Forms of Project Organization:

The traditional form of project organization is not suitable for project work for the following reasons.

i) It has no means of integrating different departments at levels below the top management, and

ii) It does not facilitate effective communication, coordination and control, when several functional department, with different professional backgrounds and orientations are involved in the project work under time and cost pressures, which often call for overlap, at least partial, of the development, design, procurement, construction, and commissioning work.

The type of Project organization is determined by the authority that is given to the persons responsible for the project, the project organization may take one of the following three forms;

5.1.1 Line and staff organization
5.1.2 Divisional Organization
5.1.3 Matrix Organization

5.1.1 Line and Staff organization:

In this form of organization, a person is appointed a with the primary responsibility of coordination the work of the people in the functional departments; such a person referred to commonly as the project coordinator, acts essentially in a staff position to facilitate the coordinator, acts essentially in a staff position to facilitate the coordination of line management in functional departments. The project coordinator does not have authority and direct responsibility of the line management. He serves as a focal point for receiving project related information and seeks to promote the cause of the project by rendering advice, sharing information and providing assistance. He may gently coax line executives to strive for the fulfillment of project goals. Deprived to exert leadership and feel unsure of his role. His influence would depend on his professional competence, closeness to top management, and persuasive abilities. Clearly this is a week form of organization, which may be employed mostly for small projects it is certainly not suitable for large projects.

5.1.2 Divisional Organization:

Under this form of project organization a separate division is set up to implement the project, headed by the Project Manager. This division has its complement of personnel over whom the project manager has full line of authority. In effect, this form of organization implies the creation of a separate goal oriented decision of the company with its own functional departments. While the project manager still has the problem of coordinating the inputs of the organizations involved in the project, he has total formal control over the division he heads.

Advantages:

- A very strong form of project organization.
- It facilitate the process of planning and control
- It brings better integration of effects and strengths the commitment of project related personal to the objective of the project.
- It considerably improves the perfect of fulfilling the time and budget targets.

Limitations:

- It may entail on inefficient use of resources of the firm.
- It may result in an unnecessary duplication of specialist in the company.
- It may difficulty to achieve higher degree of specialization.

5.1.3 Matrix Organization:

The matrix form of organization, the third form of project organization, seeks to achieve the twin objectives of efficient use of resources and effective realization of project objectives, at the cost of greater organizational complexity of course.

In a matrix organization, the personnel working on the project have a responsibility to their functional superior as well to the project manager. This means that the authority is shared between the project manager and the functional managers.

The authority and influence of the project manager are across the traditional vertical line of command while the personnel maintain the departmental affiliation and are responsible to their functional superiors; they are responsible to the project manager as well.
Limitations:

- There is dual subordinations
- Responsibility and authority are not commensurate
- The hierarchical principle is ignored.

5.2 Project Planning:

Project involving few activities, resources, constraints and inter relationship can be visualized by the human mind and planned informally. However, when a project crosses a certain threshold level of size and complexity, informal planning has to be substituted by formal planning, without effective planning there may be chaos.

5.2.1 Functions of planning:

Planning, a vital aspect of management serves several important functions.

i. It provides a basis for organizing work on the project and allocating responsibilities to individuals.
ii. It is a means of communication and coordination between all those involved in the project.
iii. It includes people t look ahead.
iv. It instills a sense of agency and time consciousness.
v. It establishes the basis for monitoring and control.

5.2.2 Areas of planning:

Comprehensive project planning covers the following;
a) Planning the Project work: the activities relating to the project must be spell out in detail, they should be properly scheduled and sequenced.
b) Planning the manpower and organization: the manpower required for the project must be estimated and the responsibility for carrying out the project work must be allocated.
c) Planning the money: the expenditure of money in a time phased manner must be budgeted.
d) Planning the information system: the information required for monitoring the project must be performed.

5.2.3 Work -break down structure:

The work breakdown structure, as it name suggests, represents a systematic and logical breakdown of the project into its component parts. It is constructed by dividing the project into o its major parts, with each of these being further divided into sub parts. This is continued till a breakdown is done in terms of manageable units of work for which responsibility can be defined, thus the work breakdown structure helps in;

- Effective planning: by dividing the work into manageable elements, which can be planned, budgets and controlled.

- Assignment of responsibility for work element to project personnel and outside agencies.
- Development of control and information system.

5.3Project Control:

Project control involves a regular comparison of performance against targets, a search for the causes of deviation, and a commitment to check adverse variances. It serves two functions.
(i) Regular monitoring of performance and (ii) it motivates project personnel to achieve project objectives.

5.3.1 Reasons for ineffective control:

Effective control is critical for the realization of project objectives. Yet, control of projects in practice tends to be in effective. This seems to be three reasons for poor control of projects.
(i) Characteristics of the project: Most of the projects are large, complex understandings involving many organizations and people.
(ii) People Problem: naturally most of the operational mangers, used to the study rhythm of normal operations and routine work the lack of experience, training, competence and inclination to control projects.
(iii) Poor control and information system: One of the factors, which inhibit effective control, is the poor quality of control and information system. Some of the weakness observed in the control and the information system are;
a) Delay in reporting performance
b) Inappropriate level of details
c) Unreliable information.

5.3.2 Performance Analysis:

Effective control over a project requires systematic ‘Performance Analysis’. For small and simple projects, the project managers would do performance analysis for the project as a whole, or for its major components. As the project business larger and more complex, performance analysis needs to be done for individual segments of the projects.

Methods of Analysis:
Performance analysis seeks to remove this subjectivity be employing an analytical framework based on the following terms.
BCWS: (Budgeted cost for work scheduled) It represents the total of three components (i) budgets for all work packages, scheduled to be completed (ii) budgets for the portion in process work, scheduled for the accomplished and (iii) budgets for the overheads for the period.
BCWP: (Budgeted Cost for Work Performance) this is equal to the sum of three components (i) Budgets for work packages actually completed (ii) budgets applicable to the completed in process work and (iii) overhead budgets

ACWP: (Actual Cost of Work Performed) . This represents the actual cost incurred for a accomplishing the work performed during a particular time period.
BCTW: (Budgeted Cost for Total Work). This is simply the total budgeted unto for the entire project work.
ACC: (Additional Cost for Completion) This represents the estimate for the additional cost required for completing project.
Given the above terms, the project may be monitoring along the following lines;

Cost Variance:	=	BCWP – ACWP
Schedule variance in cost term:	=	BCWP-BCES
Cost performance Index:	=	BCWP/ACWP
Scheduled performance Index:	=	BCWP/BCWS
Estimate cost performance Index:	=	BCTW/(ACWP+ACC)

5.4Human Aspects of Project Management:
A satisfactory human relations system is essential for the successful execution of a project. Without such a system, the other systems of project management, however sound they may be by themselves, are not likely to work well, while technical problems can often be solved with additional investment of resources, people's problems may not be amenable to a satisfactory solution on the short span of the project life.

The achieve satisfactory human relations in the project setting, the project manager must successfully handle problems and challenges relating to;

- Authority
- Orientation
- Motivation
- Group functioning

5.5 **Pre-requisites for successful project implementation**:

Time and cost overruns a project are very common in all places. Due to such time and cost overruns, projects tend to become uneconomical., resources are not available to support other projects and economic developments is adversely affected.

What can be done to minimize time and cost overruns and thereby improve the prospects of the successful completion of projects? While a lot of things can be done to achieve this goal, the most important ones appear to be as follows.

5.5.1 Adequate information: Often project formulation is defiant because of one or more of the following shortcomings:
►Superficial field investigation
► cursory assessment of input requirement
► Slip shot method used for estimating costs and benefits.
►undue hurry to start

►Deliberate over estimation of benefits and under estimation of costs.

Costs may be taken to avoid the above deficiencies so that the appraisal and formulation of the project is through, adequate and meaningful.

5.5.2 Sound Project Organization: A sound organization for implementation of the projects is critical to its success; the characteristics of such an organization are;

(i) It is led by a competent leader
(ii) The authority of the project leads and his team is commensurate with their responsibility
(iii) Adequate attention is paid to the human being in the project
(iv) System and method are clearly defined
(v) Rewards and penalties to individuals are related to performance.

5.5.3 Proper implementation Planning:
Once the investment decision is taken and often ever while the formulation and appraisal are being done it is necessary to do detailed implementation, such planning should inter alia, seek to,
a) Develop comprehensive time plan.
b) Estimate metriculosly the resource requirements
c) Define properly inter-linkages between various activities of the project.

5.5.4 Advance Action:
Advance action on the following activities may be initiated (i) acquit ion of land (ii) securing essential clearance (iii) identifying technical collaborators

(iv) arranging infrastructure facilities (v) Preliminary design of engineering (vi) calling of tenders.

5.5.5 Timely availability of fund: Once a project is approved adequate funds must be made available to meet its requirements as per the plan of implementation it would be high desirable if funds are provided even before the final approval to initiate advance action.

5.5.6 Judicious equipment tendering and procurement

5.5.7. Better contact Management

5.5.8 Effective monitoring