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Project Management Introduction, Objectives, Principles and Phases



Lecture By
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Lecture 1

1. Overview

- a. Target Population:** For students of stage of second and fourth stage in technical Colleges and institutes in foundation of technical education.
- b. Rationale:** Management is an art of directing workers efforts to obtain on high production and excellent quality. This leads to avoidance of loss and profits are increased and it provides security and safety element. This mode unit consists of main elements of management, objectives, and steps/phases of project management.
- c. Central Ideas:** Project management is a set of principles, methods and steps for effective planning of objective-oriented work, thereby establishing a sound basis for effective scheduling, controlling and re-planning in the management of programs and projects.
- d. Objectives:** The student will be able after finishing lecture on:
- Define main elements of project management.
 - Study steps/phases of project management.

2. Pre-Test:

1. Define the term 'project'.
2. Organizing is done after planning in elements of management. State True or false
3. Project control is one of the step of project management- State True or False
4. The term “**scope definition**” in a steps of project management comes under
a) Project initiation b) project planning c) project scheduling d) project costing
5. The term “**client feedback**” in a steps of project management comes under
a) Project termination b) project planning c) project scheduling d) project costing

Note: Check your answers in “Answer Keys” in end of mode unit. If you obtain 75% of solution, you cannot need to this mode unit. If your answer is poor, you will transfer to next page.

3. Theory:

Introduction

Management is an art of directing workers efforts to obtain on high production and excellent quality. This leads to avoidance of loss and profits are increased and it provides security and safety element. This mode unit consists of main elements of management, objectives, and steps/phases of project management.

Elements of management

1. Planning

2. Organizing involves:

- a. Establishing a structure to be filled by people, aimed at reaching the defined goals and objectives.
- b. Defining job content, interfaces, responsibilities, authority, and resource allocation.

3. Staffing involves:

- a. Filling the positions in the organizational structure with suitable people.
- b. Keeping the positions filled, in order to execute the plan.

4. Directing (or Leading) involves:

- a. Creating an environment in which individuals, working together in groups, can accomplish well-selected aims.
- b. Influencing people to contribute to reaching the goals and objectives.
- c. Using leadership styles, communication, conflict resolution, delegation, etc. in order to overcome the problems arising from people issues (attitudes, desires, motivations, behavior in groups, etc.) on a project.

5. Controlling (and co-ordination) involves:

- a. Measuring actual performance.
- b. Comparing actual- with desired results and implementing corrective actions – e.g. by controlling the actions of the people doing the work.

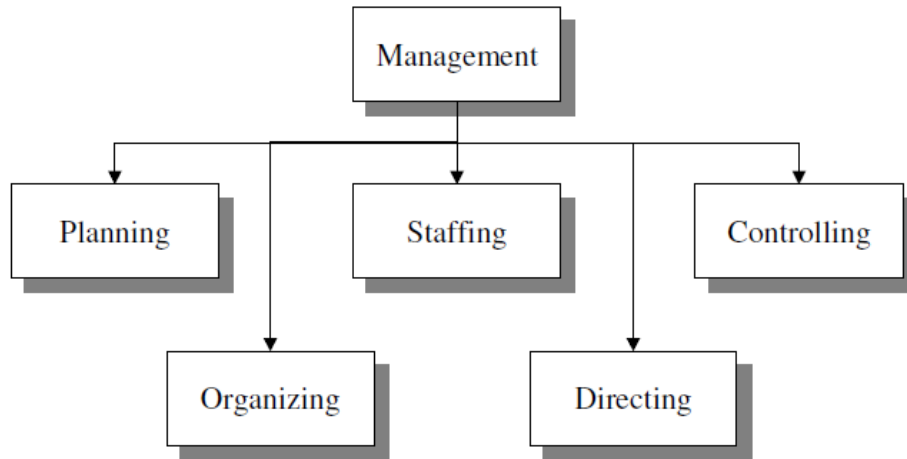


Fig. (1) Block diagram of elements of management.

Project is an assignment/task/job that has to be undertaken and completed within a set time, budget, resources and performance specifications designed to meet the needs of stakeholder and beneficiaries.

A project is an endeavor (محولة أو مسعى) to accomplish a specific objective through a unique set of interrelated tasks and the effective utilization of resources. It has a clearly defined objective stated in terms of scope, schedule, and cost. The responsibility of the project manager is to make sure that the project objective is accomplished and that the work scope is completed in a quality manner, within budget, and on time, to the customer's satisfaction.

Project management emerged because of the growing demand for complex, sophisticated, customized goods and services and the exponential expansion of human knowledge. The former depends on the integration of product design with production / distribution and the latter allows a number of academic disciplines to contribute to the development of goods and services.

Project Management is the use of knowledge, skills, tools, and techniques to plan and implement activities to meet or exceed stakeholder needs and expectations from a project. Project Management is a set of principles, methods and techniques for effective planning of objective-oriented work, thereby establishing a sound basis for effective scheduling, controlling and re-planning in the management of programs and projects. In other words, it provides an organization with powerful tools that improve the organization's ability to plan, organize, implement and control its activities and the ways it uses its people and resources.

- A project has a customer. The customer is the entity that provides the funds (capital) necessary to accomplish the project. It can be a person, an organization, or a partnership of two or more people or organizations.
- Finally, a project involves a degree of uncertainty. Before a project is started, a plan is prepared based on certain assumptions and estimates. It is important to document these assumptions, because they will influence the development of the project budget, schedule, and work scope. A project is based on a unique set of tasks and estimates of how long each task should take, various resources and assumptions about the availability and capability of those resources, and estimates of the costs associated with the resources. This combination of assumptions and estimates causes a degree of uncertainty that the project objective will be completely accomplished.

PROJECT LIFE CYCLE

Figure 1 shows the four phases of the project lifecycle and the relative amount of effort and time devoted to each phase.

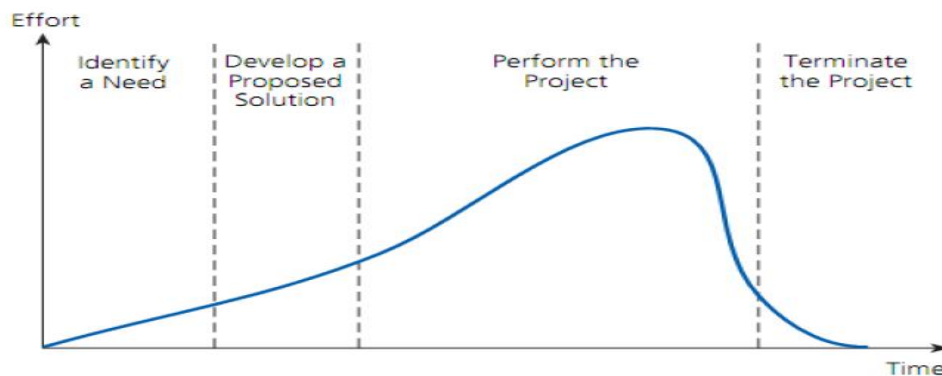


FIGURE 1 Project Life Cycle Efforts

The first phase of the project life cycle involves the identification of a need, problem, or opportunity and can result in the customer's requesting proposals from individuals, a project team, or organizations (contractors) to address the identified need or solve the problem. The need and requirements are usually written up by the customer in a document called a request for proposal (RFP). Through the RFP, the customer asks individuals or contractors to submit proposals on how they might solve the problem, along with the associated cost and schedule.

The second phase of the project life cycle is **the development of a proposed solution to the need or problem.** In this phase, the contractor effort is dominant. Contractors interested in responding to the RFP may spend several weeks developing approaches to solving the problem, estimating the types and amounts of resources that would be needed as well as the time it would take to design and implement the proposed solution. Each contractor documents this information in a written proposal. All of the contractors submit their proposals to the customer.

The third phase of the project life cycle is **the implementation of the proposed solution.** This phase begins after the customer decides which of the proposed solutions will best fulfill the need and an agreement is reached between the customer and the individual or contractor who submitted the proposal. This phase, referred to as performing the project, involves doing the detailed planning for the project and then implementing that plan to accomplish the project objective. During the course of performing the project, different types of resources will be utilized.

The final phase of the project life cycle is **terminating the project.** An important task during this phase is evaluating performance of the project in order to learn what could be improved if a similar project were to be carried out in the future. This phase should include obtaining feedback from the customer to determine the level of the customer's satisfaction and whether the project meet the customer's expectations. Also, feedback should be obtained from the project team in the form of recommendations for improving performance of projects in the future.

Objectives of the Project management

The basic purpose for initiating a project is to accomplish some goals. The reason for organizing the task as a project is to focus the responsibility and authority for the attainment of the goals on an individual (project manager) or a small group (project team).

Project Management is a means by which to fit the many complex pieces of the project puzzle together, both human and technical, by use of:

- Schedules
- Budgets, including resource allocation
- Scope (product) definition

Project Management fulfills two purposes:

1. **Technical:** Documentation techniques to communicate
 - The 'plan'
 - Status which compares 'planned' versus 'actual' performance
2. **Human: Managerial skills** to be a better 'manager' of people as well as the project

Implementation of project management technique can have significant results such as:

1. Cost reduction
2. Time reduction
3. Resources allocation
4. Increased quality

Steps/Phases of Project Management

The steps followed for project management are essentially the steps for successful project initiation, development and completion.

1. PROJECT INITIATION

- Concept definition, which includes identification and selection of opportunities and identification of objectives
- Feasibility study and justification

2. PROJECT PLANNING

- Scope definition
- Goal definition, includes time, money, resources and product targets
- Project requirements - definition of deliverables
- Project objectives - definition of major work efforts, quantifiable
- Work break down structure
- Analysis & break down of project into smaller pieces of work
- Development of checklist of everything that needs to be done
- Team building
- Selection of project manager
- Selection of team members,
- Use resource matrix to match skills task requirements

3. PROJECT SCHEDULING

- Determining sequence of work
- Building network / interdependence
- Analysis of interdependence, estimation of total duration (CPM, PERT) and determination of Critical Path
- Establish milestones
- Graph on time chart (Gantt chart)
- Determining human resource loading
- Establishing milestones / reporting periods

4. PROJECT COSTING

- Estimate costs, capital / operating
- Develop cost spreadsheets

5. PROJECT CONTROL

- Done periodically (at milestones)
- Time control, status, deviations from plan, replanning, new estimates
- Cost control, Expenditure, deviations from plan, new estimates
- Quality control, performance versus performance criteria / project requirements

6. PROJECT TERMINATION / EVALUATION

- Post project activity
- Statistics from monitoring progress
- Client feedback
- Profitability or not of the project
- Post implementation report

3. Project management fulfills two purposes ----- and -----.
4. Implementation of project management technique leading to -----, -----, -----, and -----.

5. The term “**team building**” in a steps of project management comes under
 - a) Project termination
 - b) project planning
 - c) project scheduling
 - d) project imitation

4. Self- Test

1. Define project management.
2. List the main elements of management.

5. Post- Test

1. List the steps/phases of project management.
2. Controlling is last element of elements of management. State True or False
3. Implementation of project management leads to increase the cost- State True or False
4. Project Management is a means by which to fit the many complex pieces of the project puzzle together, both human and technical, by use of -----,-----, and -----.
5. The term “**establish milestones**” in a steps of project management comes under
 - a) Project termination
 - b) project planning
 - c) project scheduling
 - d) project costing

Note: Check your answers in “Answer Keys” in end of mode unit.

Answer Keys
Pre- Test
<ol style="list-style-type: none"> 1. Project is an assignment/task/job that has to be undertaken and completed within a set time, budget, resources and performance specifications designed to meet the needs of stakeholder and beneficiaries. 2. True. 3. True. 4. b) project planning 5. a) project termination
Self-Test
<ol style="list-style-type: none"> 1. Project Management is the use of knowledge, skills, tools, and techniques to plan and implement activities to meet or exceed stakeholder needs and expectations from a project. 2. Planning, organizing, staffing, directing, and controlling. 3. Technical and human. 4. Cost reduction, time reduction, recourses allocation, and increased quality. 5. b) project planning
Post- Test

1. Project initiation, project planning, project scheduling, project costing, project control, and project termination.
2. True.
3. False.
4. Schedules, budgets, including resource allocation, and scope (product) definition
5. c) project scheduling

6. References

1. Y. Bakouros and V. Kelessidis “Project management” INNOREGIO: dissemination of innovation and knowledge management techniques, January 2000.
2. J.R. Meredith and S.J. Mantel “Project Management”, J. Wiley & Sons, 1995.

<http://www.projectmanagement.com/main.htm>.