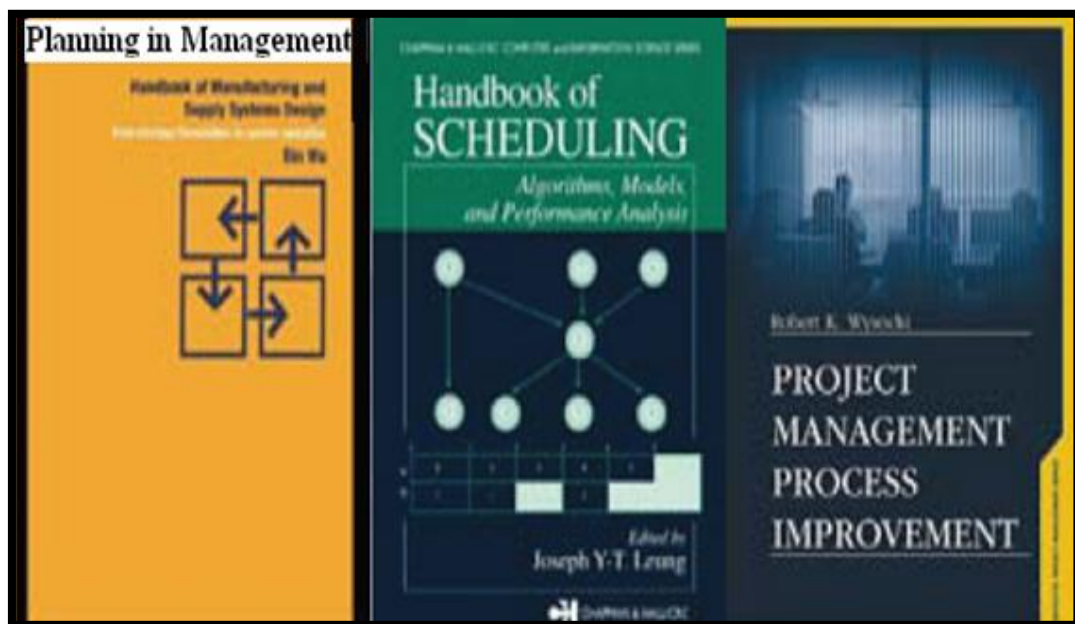


Electrical and Electronic Technical College
Computer Engineering Department

Project Management Introduction, Objectives, Principles and Phases

For
Students of Fourth Stage
Computer Department



By

Department Of computer Engineering

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

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.

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.

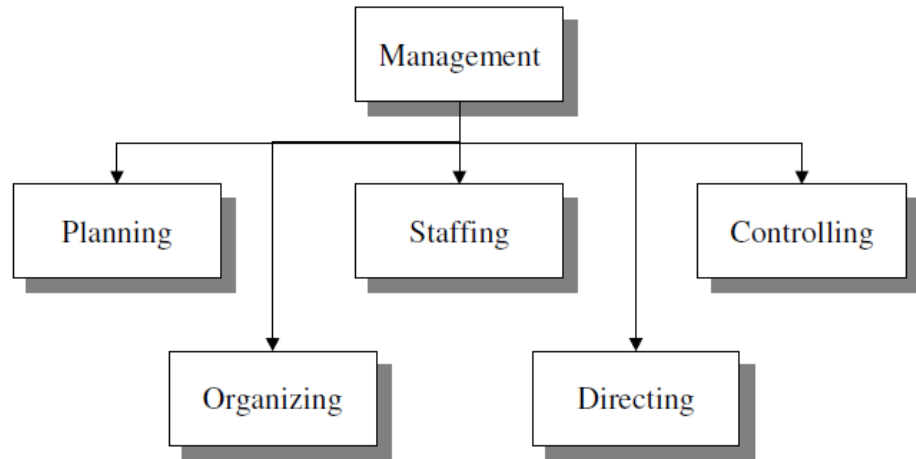


Fig. (1) Block diagram of elements of management.

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.

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.

4. Self- Test

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

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

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

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

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

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

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

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

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, resources allocation, and increased quality. 5. b) project planning
Post- Test
<ol style="list-style-type: none"> 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