



PROJECT MANAGEMENT OVERVIEW

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Abstract

Project management is a carefully planned and organized effort to accomplish a successful project. A project is a one-time effort that produces a specific result, for example, a building or a major new computer system. This is in contrast to a program, which is 1) an on-going process, such as a quality control program, or 2) an activity to manage a series of multiple projects together. Project management includes developing a project plan, which includes defining and confirming the project goals and objectives, identifying tasks and how goals will be achieved, quantifying the resources needed, and determining budgets and timelines for completion. It also includes managing the implementation of the project plan, along with operating regular 'controls' to ensure that there is accurate and objective information on 'performance' relative to the plan, and the mechanisms to implement recovery actions where necessary.

Keywords: The project performance objectives, functions, process and role of project manager.

1. Introduction

Project management is the art and science of managing all aspects of the project to achieve the project mission objectives, within the specified time, budgeted cost and pre-defined quality specifications; working efficiently, effectively and ethically in the changing project environments.

2. Project Performance Objectives

There are many factors that determine the outcome of a project but the five main parameters that define a project are scope, quality, resources, completion time and cost.

- Scope defines the deliverables. A deliverable is a specified unique and verifiable product that must be produced in order to complete a process or a phase of a project.
- Quality of the product to be achieved is stated in terms of design, drawings and specifications.
- Resource includes manpower, materials and machinery that is necessary to perform the work. Resource productivity measures the efficiency with which resources are utilised.
- Completion time is defined by the speed with which the project is to be executed.
- Cost is the budgeted expenditure, which the client has agreed to commit for the creation/acquisition of the desired facility.



The preceding five parameters are interdependent and interactive, i.e. each parameter is a function of the other.

3. Project Management Functions

The overall aim of project management in an enterprise is to create within the organisation, an environment which facilitates the accomplishment of its objectives. In order to achieve this, management has to perform certain functions. Although the development of a theory and science of management suffers from disagreement among scholars and managers, a general pattern of functions which management has to perform, has emerged. Traditionally, management functions are grouped under planning, organising, staffing, leading, controlling and – common to all these functions is – co-ordination and communication.

Planning – This involves deciding, in advance what is to be done; the manner in which it is to be done, and the sequence to be followed in order to achieve the objectives. Planning aims to decide on the future course of action. A schedule depicts when, and in what sequence, the planned activities are to be carried out, and puts the plan on calendar-date scale.
Organising – This is the process of establishing a structural relationship among functions of people, so as to streamline the achievement of assigned objectives.
Staffing Resources – This implies managing and staffing the positions created by the organisation structure and providing them with quality resources at the appropriate time. These resources include people, materials, machinery and money.
Leading – This involves influencing people so as to enable them to contribute to organisational goals efficiently and effectively.
Controlling – This involves monitoring performance and applying corrective measures in case of deviations from the plan.
Co-ordination and Communication – These are essentials in each management function.

4. Project Management Process Groups

4.1 Project Management Phases

The processes in a project can be generally divided into two categories, i.e. project management-related processes and technical management-related processes. The technical management related processes vary from project to project and the appropriate technical skill of project managers is an essential requirement for the successful completion of the project. Project management-related processes follow a similar pattern in most projects. The development processes relating to project phases that are outlined below, are concerned with management of projects and exclude technical management-related processes.

4.2 Project Scope Formulation Phase

Processes in Project Scope Formulation Phase Need analysis Feasibility study Investment appraisal Project scope definition Project implementation strategy
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This phase defines the project scope of work and outlines the implementation strategy.

4.3 Project Planning Phase

Processes in Project Planning Phase

Time planning
Resource planning
Cost planning and budgeting
Quality assurance planning
Organisational planning
Risk response planning
Resource mobilisation planning
Worker's safety, health and environment protection plan

Planning follows systematic approach. The planning process is stimulated through a study of project documents. These documents include-but are not limited to-the available technical and commercial studies and investigations, estimate of quantities, method statement, project planning data, working regulations, market surveys, local resources, project environment and client's organisation. The planning process takes into account the strengths and weaknesses of the organisations as well as the anticipated opportunities and risk's. Various planning technique are employed to systematise and transform the mental thought process into a project plan.

4.4 Project Execution Phase

This phase is concerned with co-ordinating and managing people and other resources in order to carry out the project plan. In this phase, execution and control are concurrent processes.

4.4.1 Execution processes

Processes Relating to Project Execution

Project organisation
Resources mobilisation
Scope quality assurance team development
Information distributions
Contract administration

Contracted projects are supervised and carried out by several agencies. These include the client team led by the project manager and the performing agencies managed by their respective manager. Teams have the common goal of completing the project within the stipulated time without exceeding specified costs and maintaining quality specifications.

The contractor manager executes the assigned work. He operates to achieve the objectives, which includes optimising profit. The client project manager manages the contractor employed at the site with the help of his supervisory team who report to him for decisions.

It is the client project manager who plays the domination role. He represents the client and plays the role of the boss. He overviews the stake holder's organisation employed with the help of his supervisory team who report to him for decisions. He is accountable to the client for the project.



4.5 Controlling Processes

Performance Controlling Processes

Scope change control
Resource control
Schedule control
Cost control
Quality control
Risk response control
Performance reporting

The project plan indicates the path to be followed in order to achieve the objectives. During the implementation phase project control aims to track the progress of work in accordance with planned schedule and take corrective action including re-planning, when necessary, in order to achieve the project objectives. Planning and control follows a system concept. Each stake holder organisation in a project can be viewed as a sub-system. These sub-systems are highly interdependent and interactive. Each sub-system accounts for its performance and reports the deviation between the actual and planned to the project control centre. This control centre, managed by the project monitor, is the heart of the system. It receives the performance data from the responsibility centres and using scientific tools and techniques, transforms this data into information, suggesting remedial action if required, for achieving the objectives. This information, when applied at the appropriate levels, results in steering the organisational effort towards the attainment of the project objectives.

4.6 Project Closing Phase

Process Closing Phase

Maintenance close
Administrative close
Contract closeout

This phase formalises the acceptance of the project and brings it to an orderly end. After completion by the contractor, the project team hands over the project and project summary report to the client.

5. Role of a Project Manager

The project manager is the kingpin around whom the whole organisation revolves. He is entrusted with the task of integrating the interdisciplinary and inert-organisational efforts under changing environments for the successful accomplishment of the specified objectives. He operates independently of the normal organisational chain of command, with the sole aim of achieving the specified goals within the available resources. He assumes total responsibility and accountability for the success or failure of the project. His functions may vary with the nature of the project and organisational setup, but his roles which reflect the behaviour patterns are similar in almost all types of projects. The success of a project hinges on the competency of the project manager.

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