11 Project Evaluation and Control

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Learning objectives

By the time you have completed this chapter you should be able to:

☐ Understand the concept of Project Performance Measurement.

☐ Identify and explain Project Performance Measurement Baselines.

☐ Describe the change management process

☐ Differentiate between change management and configuration management.

☐ Identify the types and causes of change within a project

☐ Develop a robust system for requesting change within a project

☐ Monitor and analyse performance using Milestone Tracking

☐ Monitor and analyse performance using Earned Value Analysis

Introduction

This chapter begins to look at the execution phase of the project. During this phase it is assumed that most of the project planning activities have been completed. Therefore most of the project management efforts will be on ensuring that the project will be realised as planned and taking corrective action for any deviations from the plan. This chapter begins by discussing project performance measurement, leading to change management and configuration management, before showing two effective methods of monitoring and controlling the performance of the project.

11.1 Project performance measurement

In projects in general, monitoring and control procedures use the **project baselines** as the point of measurement. The project baselines comprise the planned cost and schedule recorded in the time phased budget. These reflect the agreed upon specifications and other parameters such as health and safety, besides any special customer requirements as per the defined scope of the project. At the end of the day, project success will be measured against the realisation of the benefits sought through the deliverables of the project, and in this context customer satisfaction is the overarching envelope. At any specific point on the project timeline, the project estimated expenditure is given. However, we have to accept that change will occur and will have an impact on the project baselines. It is the project manager's responsibility to control change, record the change, take corrective action for deviation from the project baseline and amend the project baseline accordingly.

It is necessary to establish a system to measure the performance of the project, and of the project manager. If there is no baseline or benchmark, then it will be difficult to make any objective evaluation of project performance. There are two levels: the micro level and the macro level. The former is concerned with the project scope, cost and time parameters which will be discussed in the later sections of this chapter under *earned value analysis* (EVA). It is worth noting that the approved detailed project scope statement and its associated WBS and WBS dictionary are the scope baseline for the project. The scope baseline is a component of the project management plan.

The latter on the other hand is concerned with the macro (strategic level) which is more grounded in the benefit realisation management concepts, as part of the strategic project management theory. In brief, this refers to the benefits sought through the implementation of this project and its contribution to the strategic objectives of the organisation as a whole. How can this be measured, especially if it includes a mix of tangible and intangible benefits? This can be an interesting topic for class discussion.

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11.2 Change management

Despite the effort that goes into project planning, most elements of the detailed plans will not be fully realised as expected. This is because projects are unique and have a high degree of uncertainty. As a consequence, projects are highly susceptible to deviation from the original plans.

However, implementing changes to the project quite often impacts on the project objectives. Changes to the project involve re-design, re-planning and re-working, which consume time, resources and costs. The impact on the project is at it greatest during the execution phase, when the client has committed to expenditure on contractors and suppliers. It is therefore essential that an effective change management process is employed on the project, which will prevent any ad hoc and unauthorised amendments to the project, whilst maintaining control of any changes that needs to be made.

■   Sources of change

Change comes from many sources within a project. This includes the client, the project team, the participating organisation or external sources. Typical sources of change include:

- **Scope changes:** The most common form of changes in a project are those imposed by the client. This includes 'scope creep' when small constant incremental changes occur on the project scope, that when presented as whole have a significant impact. Scope changes could include additional elements of the project or redesign. It may be a request to improve the quality or change features of the project, or it may be to remove specific deliverables.
- **Baseline changes:** It is not uncommon for a client to seek improvement of the project baseline, by either reducing the budget costs or the master schedule.
- **Risks:** As discussed in Chapter 7, identification of risks or implementation of contingency plans may force the project to take a different course of action. This inevitably represents a change in the baseline costs and schedules.
- **Failure:** Risks that are not identified in the risk management process, such as contactor or supplier failure result in failure. These will also incur change.
- **Improvements:** Change is not always negative. Change can also come from improvements to the project process, such as those recommended by the project team.

■   The change management process

The purpose of the change management is to ensure that formal procedures exist to record, monitor and control changes to the project baseline. A typical process may include the following stages:

1 **Identify the proposed changes to the project:** The process must include a procedure for identifying change issues, which are the actions or circumstances that cause change. This includes routine assessments, reviews, meetings and inspection.