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Project Executing & Control

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*What Happens
During Project Execution*

- Once the baseline plan has been developed, approved, and the necessary resources put in place, the project moves into the execution phase.
- The Project Manager's focus now shifts from planning to executing and controlling according to the commitments made in the project plan.

Project Control Process

- The project plan serves as the basis for the project's monitoring, controlling, and reporting activities.
- During project execution, the project manager is responsible for coordinating data collection, monitoring, and reporting project activities.
- Information should be made available to accurately identify issues and problems early so that project risks can be minimized.
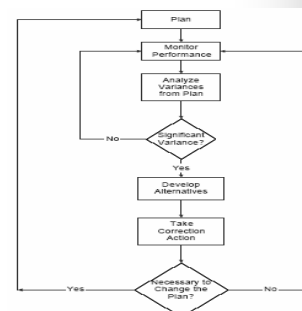

Project Control Process (2)

- The next series of documents deals with the "control" of the project after it has begun.
- This involves processes that need to be in place to ensure that the project progresses according to the plan.
- During tracking, monitoring, and reviewing, the project team assesses the current state of the project.

Project Control Process (3)

- This includes the following activities:
  - Review the completed activities.
  - Identify milestones reached.
  - Identify problems or issues such as a change request.
  - Update project schedule and progress information.
  - Update budget and calculate variances.
  - Take corrective actions

Project Control Process (4)

Project Control Process (5)

- Controlling consists of collecting data to monitor performance against the plan, analyzing variances from the plan, deciding whether corrective actions are necessary to bring performance back on plan, and deciding if the plan needs to be adjusted or changed.
- A plan adjustment is a change to the internals of a plan, such as adding resources or changing the sequence of activities, that does not change the overall project scope, schedule or cost.
- A plan adjustment does not require the approval of all the stakeholders, only those directly affected.
- A plan change involves a change in scope, quality, schedule or cost that must be approved by all the stakeholders.
- Finally, project status and any actions taken or recommended need to be communicated regularly to the stakeholders including team members, management and the users.

Preventing Problems is a Better Course than Fixing Them

- Projects fail due to inattention to basic control principles.
- Too many times the project team is busy getting on with "completing the project" and not spending the time and energy to understand the status of the project and to identify problems.
- Then, once a problem emerges, the team acts too slowly to resolve the root of the problem.

Preventing Problems … (2)

- The purpose of the project management control process is to identify potential problems early and prevent them from happening, or if that is not possible, minimizing their impact.
- Preventing problems is far easier and less costly than solving them.

Some Potential Problems that May Arise

- Lack of good data on activity progress.
- Inadequate definition of requirements.
- Frequent and uncontrolled changes to the baseline requirements.
- Poor time and cost estimates.
- Difficulties in concluding tasks and projects because of lack of completion criteria.
- Frequent replacement of personnel.
- Inadequate tracking and directing of project activities.

Some Potential … (2)

- One of the most common problems is that the project manager, and possibly the full project team, is unaware of the existence of a major problem at a stage when it could be contained and eliminated.
- This can be resolved by the consistent sharing of information and taking action based on that information.

Project Tracking and Monitoring

Project Tracking and Monitoring

- The management functions of tracking and monitoring are indispensable to the effective and efficient control of the project.
- In this methodology, tracking is defined as the fact-finding processes, and monitoring as the analysis of these facts.
- Both are needed for effective management of a project.

Project Tracking … (2)

Control processes are established not to determine what has happened, but rather to predict what may happen in the future if the present conditions continue.

> **Each project team constantly compares planned and actual performances to answer the fundamental question:**
> ------------------------
> *How is the project doing?*

Project Tracking … (3)

- Once a project has advanced to the execution phase, constant flow of consistent information on the true status of the project is essential to keeping the project on the road to success.
- This information is generally provided in the form of:
  - Written status reports.
  - Updates to the schedule, showing actual progress compared to the plan.

Project Tracking … (4)

- Resource analysis comparing the actual resources assigned to the project against the plan.
- Financial analysis comparing actual costs versus planned costs.
- Issues/Action item log documenting issues, decisions and action items that may impact project performance, with due dates and status of each.
- Change Control log documenting all change requests with due dates and status.
- Project Review presentations for management and the Steering Committee, summarizing all of the above.

Project Tracking … (5)

- Most of the methods for acquiring information pertaining to the project come from the project team and from the processes used to keep the plan current.
- This section deals specifically with the elements of tracking and monitoring.
- The purpose is to track all four major project variables ➔ performance, time, scope and cost.

Project Tracking … (6)

- The recommendations contained in this document serve as the minimum set of planned elements that are to be tracked and monitored over the lifetime of the project.
- This list should be augmented and tailored for each specific project, based on its size and complexity.
- Risk management during project execution is addressed separately because of its particular importance.
- It should be noted, however, that accurate and timely tracking and monitoring are the basis for effective risk management.

The Project Plan as the Road Map and Baseline for Tracking and Monitoring

- The tracking process should start with the project plan.
- Even an imperfect project plan is useful because it can serve as a starting place.
- The concept of a "perfect" plan is an illusion and not what determines project success.
- Plans are living documents that need to be updated continually to reflect project performance and changes in the project environment.

The Project Plan as ... (2)

The key elements in the project plan that are needed for tracking include:
- Scope of Work.
- Project Functional Specifications and other documents.
- Success factors.
- Work Breakdown Structure (WBS), activity network and activity descriptions.
- Master and detailed schedules, along with the assumptions on which they were based.
- Budgets and estimates, along with the assumptions on which they were based.
- Financial and funding plans.
- Quality, Configuration Management and Risk Management Plans.

What is to be Tracked

- As a general rule of thumb, most tracking materials should be by-products of execution of the project.
- The level of detail about the project should decrease as the information is moved up through the project organization.
- "What is to be tracked and how" is a very important question and one not to be taken lightly.
- The project manager should first focus on putting in place the most critical parts of tracking and monitoring, and then add additional items to track as necessary.

What is to be Tracked (2)

- The minimum tracking and monitoring components are:
  - Schedule
  - Cost
  - Resource utilization and availability
  - Scope
  - Quality
- For each of these it is necessary to track performance against the plan and forecast the final performance of the project.

When Should Tracking be Done?

- The frequency of the tracking and monitoring activities will vary with the specific element and the amount of detail needed and should complement the management and technical review processes for the project.
- The frequency of tracking activities should be documented in the project charter, possibly summarized in a project tracking matrix.

Tracking Activity	Recommended Frequency	Remarks
Update Project Master Schedule	Monthly and for key Milestone or Phase Completion Reviews	• GANTT chart preferred • Baseline, actual & forecast
Update detailed work schedules	Weekly or biweekly for status reports	• Task leaders are source
Update Estimate at Completion (EAC)	Monthly and whenever significant schedule or cost variances become visible.	• Schedule • Cost
Update Financial Status and planned versus actual spending profile	Monthly and for Management reviews and Steering Committee meetings.	• Dollars encumbered and spent vs. budgeted
Update Staff Loading and Staff Availability	Monthly and for Management Reviews and Steering Committee meetings.	• Are there unacceptable peaks and valleys? • Identify/validate need for resources
Update Risk Identification	Quarterly as part of Risk Management	• Update risk matrix • Is risk mitigation required? • Has a risk materialized?
Update WBS	As required when scope changes are approved or additional tasks identified.	• When requirements change • As plans evolve and become more detailed
Update Project Requirements	When change requests have been approved	• Contract modification • Change Control List for Details
Examine Quality Status vs. Plan	Quarterly and for Key Milestone or Phase Completion Reviews	• Reviews completed Quality issues identified & recommended resolutions
Examine Configuration Status versus Plan	When configuration changes are identified and approved	• Identify configuration changes
Update Issues and Action Items	Weekly for status meetings	• Tracked until resolved