Project Evaluation and Control

The project management monitoring and controlling starts as soon as a project begins. Monitoring and controlling project work is the process of tracking, reviewing, and regulating the progress in order to meet the performance objectives. It is the fourth process group in Project Management. From the perspective of Knowledge Management Area, this involves the management tasks, such as tracking, reviewing, and reporting the progress of a project. Moreover, this process is majorly concerned with:

- Measuring the actual performance against the planned performance
- Assessing performance to determine whether or not any corrective or preventive actions are indicated, the status is reported and/or appropriate risk response plans are being executed.
- Maintaining an accurate, timely information base concerned with the project output and its associated documentation till project completion
- Providing information to support status reporting, progress measurement and forecasting
- Providing forecasts to update current cost and current schedule information
- Monitoring implementation of approved changes as they occur

Monitoring and Control Processes

Monitoring and Control processes include:

1. Monitoring and Controlling Project Work

The Monitoring and Controlling Project Work process collects, measures and disseminates performance information, and assesses measures and trends to forecast potential items requiring corrective action. This includes monitoring project risks and ensuring that they are being managed according to the project's risk plans.

Outputs include:

1. Recommended corrective actions
2. Recommended preventive actions
3. Forecasts
4. Recommended defect repair
5. Requested changes

2. Integrated Change Control

The Integrated Change Control process ensures that changes as a result of project corrective actions and other controlling factors are managed across the project knowledge areas. Integrated change control takes place throughout the project, from project initiation through project closure.

Outputs include:

1. Approved change requests
2. Rejected change requests
3. Updates to the Project Management Plan
4. Updates to the Project Scope Statement (and requirements)
5. Approved corrective and preventive actions
6. Approved defect repair
7. Validated defect repair
8. Deliverables

3. Scope Verification

The scope verification process ensures that project deliverables are formally accepted.

Outputs include:

1. Accepted deliverables
2. Requested changes
3. Recommended corrective actions

4. Scope Control

The Scope Control process ensures that changes to project scope are controlled.

Outputs include:

1. Updates to the Project Scope Statement and Scope baseline (this includes requirements)
2. Updates to the Work Breakdown Structure (WBS) and the WBS Dictionary
3. Requested changes
4. Recommended corrective actions
5. Updates to organizational process assets
6. Updates to the Project Management Plan

5. Schedule Control

The Schedule Control process monitors and controls changes to the project schedule.

Outputs include:

1. Updates to the schedule model data and baseline
2. Performance measurements
3. Requested changes
4. Recommended corrective actions
5. Updates to organizational process assets

6. Activity list and activity attribute updates

7. Updates to the Project Management Plan

6. Cost Control

The Cost Control process monitors and controls costs and changes to the project budget.

Outputs include:

1. Cost estimate updates

2. Cost baseline updates

3. Performance measurements

4. Forecasted completion

5. Requested changes

6. Recommended corrective actions

7. Updates to organizational process assets

8. Updates to the Project Management Plan

7. Performing Quality Control

The quality control performance process measures specific project results to determine whether the project is meeting quality standards.

Outputs include:

1. Quality control measurements

2. Validated defect repair

3. Updates to the quality baseline

4. Recommended corrective and preventive actions

5. Requested changes

6. Recommended defect repair

7. Updates to organizational process assets

8. Validated deliverables

9. Updates to the Project Management Plan

8. Managing the Project Team

This process tracks team member performance, provides feedback, resolves issues and coordinates changes to maintain and improve project performance.

Outputs include:

1. Requested changes

2. Recommended corrective and preventive actions

3. Updates to organizational process assets

4. Updates to the Project Management Plan

9. Performance Reporting

The Performance Reporting process collects and distributes performance information — including status reports, progress reports and forecasts.

Outputs include:

1. Performance reports

2. Forecasts

3. Requested changes

4. Recommended corrective actions

5. Updates to organizational process assets

10. Managing Stakeholders

This process manages stakeholder communications and works with stakeholders to ensure that requirements are satisfied and issues are proactively resolved.

Outputs include:

1. Resolved issues

2. Approved change requests

3. Approved corrective actions

4. Updates to organizational process assets

5. Updates to the Project Management Plan

Tools and Techniques

The tools and techniques for this process include:

1. Expert Judgment

2. Analytical Techniques

3. Project Management Information Systems

4. Meetings

Analytical Techniques

There are different types of analytical techniques that are applied in project management to forecast potential outcomes based on possible variations of project or environmental variables

and their relationships with other variables. Some of the analytical techniques, which are most commonly used, are:

- Regression Analysis
- Grouping Methods
- Casual Analysis
- Root Cause Analysis
- Forecasting Methods (e.g., time series, scenario building, simulation, etc.)
- Failure Mode and Effect Analysis
- Reserve Analysis
- Trend Analysis
- Earned Value Analysis
- Variance Analysis