

Learning Journal

Student Name: Aswiin Ravi Prakash

Course: SOEN 6841 Software Project Management

Journal URL: <https://github.com/aswiinraviprakash/SOEN6841-JOURNALS-ASWIINRAVIPRAKASH>

Week 8: 18/02/2024 - 09/03/2024

Date: 09/03/2024

Key Concepts Learned:

This week we gained an understanding of Project Monitoring and Control and how it's being employed. Project Monitoring & Control involves closely tracking project progress using the project plan and milestones as benchmarks. The project plan serves as a baseline to measure how well the project is advancing. Milestones help assess whether the project is meeting target dates as it unfolds. Work progress for each task is monitored by comparing planned start and end dates with the actual ones.

Budget monitoring runs parallel to schedule tracking. To assess budget progress, it's essential to maintain accurate baseline and actual expense figures. Earned Value Management (EVM) is a powerful tool for evaluating both schedule and budget progress. For effective use of EVM, precise record-keeping of baseline dates and budget figures is crucial. This meticulous approach ensures accurate assessments of schedule and budget variances, facilitating efficient project management.

Monitoring and control in project management play a crucial role in providing the project manager with real-time insights into the project's progress and status. This process establishes a structured framework for action planning, enabling informed decision-making. By offering various options for addressing deviations from the project plan, it ensures a proactive approach to handling challenges.

Differences between Monitoring and Control:

Monitoring involves the collection of adequate data to measure project progress and ensures the accurate implementation of the project plan by the team. On the other hand, control is the ongoing process of guaranteeing that the project meets its scheduled, cost, and quality objectives, involving corrective actions when necessary to ensure successful project delivery. In essence, monitoring focuses on data collection and progress measurement, while control involves corrective actions to align the project with its planned outcomes.

Designing a Project Monitoring and Control System:

There are several steps involved in designing a Project Monitoring and Control System.

Step 1: Establish Baselines - During the planning phase, it is critical to define benchmarks or baselines for cost, time, performance, and scope. This involves creating budgets, schedules, quality plans, and a Work Breakdown Structure (WBS). Changes to these baselines should only occur after thorough review and approval through a change control system. Regular updates are made as authorized changes occur, and stakeholders are promptly informed of these alterations.

Step 2: Monitor and Measure Performance - Continuous measurement and monitoring of project progress is essential for identifying any deviations from the established plan. Timely and accurate collection of data related to percentage completion, cost expenditures, quality tests, and scope change reports is imperative throughout the project lifecycle.

Step 3: Compare Performance to Baselines - This step involves contrasting actual performance against planned performance through variance analysis. Key activities include formulating progress reports, forecasting completion, and utilizing tools such as earned value, cash flow analysis, and schedule appraisal. Thorough analysis of causes and effects is undertaken to understand deviations.

Step 4: Take Corrective Action - Upon identifying deviations, the project manager can choose from various corrective actions. Options range from taking no action for minimal variances to re-planning activities, revising the original plan, or, in extreme situations, terminating the project. The causes of change and reasons for selected corrective actions should be meticulously documented throughout the process.

Earned Value Analysis (EVA):

Earned Value Analysis (EVA) is a project management technique that evaluates project progress by integrating cost and time constraints. It involves breaking down the project into tasks or work packages and assigning a dollar value to each. Progress is measured in terms of the dollar value earned rather than days, enabling quantitative analysis of project completeness. EVA monitors progress by comparing the earned value from completing a task to the planned value for that task. If the actual value earned is less than planned, it signals potential project jeopardy, while exceeding the planned earned value indicates a positive project situation.

Objectives of EVA:

Determine Schedule Variance: EVA helps assess how the project schedule is performing compared to the planned schedule. Schedule variance indicates whether tasks are ahead of or behind schedule.

Determine Cost Variance: The technique also determines the variance between actual project costs and planned costs. This information is crucial for maintaining financial control over the project.

Performance indicators, also known as project metrics, play a crucial role in evaluating project execution against the baseline plan. If tasks are completed ahead of schedule, project re-planning can eliminate unnecessary slack by adjusting start dates of dependent tasks. Product quality metrics, such as defect density and testing effort, are essential, impacting both project budget and

success. Schedule and budget variances serve as key indicators for project schedule and budget management.

Effective resource loading involves comparing baseline work hours assigned to a resource with actual work hours expended. In program management, resource utilization metrics evaluate assigned work versus idle hours, helping identify overloaded or underloaded resources. To address project delays, available slack or resource leveling can be employed. Schedule optimization is a technique aimed at reducing unnecessary slack, updating the entire project schedule to achieve a quicker completion.

Reflections on Case Study/Course work:

In the case study, a SaaS vendor implements major and minor software releases aligned with their yearly project plan and project iterations. The project team encounters various issues and risks during execution, prompting the use of contingency plans and weekly iteration review meetings led by the project manager. These meetings address known issues and risks, as well as potential ones that may impact the project in the future. The team employs a structured approach for risk mitigation, including causal analysis, root cause identification, solution implementation, impact assessment, and schedule adjustments.

The project manager utilizes Microsoft Project for tracking the project plan, resources, and schedule, with the Gantt chart aiding in project monitoring. Defect tracking is managed using Seapine Software's TestTrack Pro. A significant challenge arises during the development of the "Appointment Scheduling Engine," a complex and large component in release 6.0. Testing reveals multiple failures due to inadequate understanding and documentation of requirements and design. The team addresses this by replacing test engineers with experienced business analysts who create a pseudo logic, conduct exploratory testing, and successfully rectify the issues. Ultimately, the successful implementation of the appointment scheduling engine becomes a notable success story within the project.

Collaborative Learning:

Engaging in discussions and group activities with my peers actively enhanced my learning journey. The collaborative aspect not only strengthened my grasp of the subjects but also introduced valuable insights from diverse perspectives and experiences. Participating in collective exploration allowed for a more comprehensive examination of topics, and the exchange of ideas among group members notably improved the overall learning experience.

Further Research/Readings:

I used both my textbook and online resources to really understand the concepts better. When working on the exercises, I checked out several websites to find more information and solutions. This mix of using a regular textbook and exploring online sources helped me get a deeper grasp of the subject and tackle the exercises more effectively. The case studies proved to be a great asset for mapping the concepts learned with practical example.

Adjustments to Goals:

My current goals are consistent with the objectives from previous weeks, focusing on exploring the topics covered and compare it with real world examples. I also aim to implement the knowledge gained by actively applying it in a collaborative group project with my teammates.