Learning Journal 3

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Course: SOEN 6841 Software Project Management
Journal URL: https://github.com/Rafsan4084/SOEN-6841_Software-Project-Management-Fall2024
Date Range of Activities: 06 October 2024 – 02 November 2024
Date of the Journal: 02 November 2024

Key Concepts Learned

This week's focus was on Project Planning and Project Monitoring & Control in software projects. These topics introduced critical project management strategies to enhance adaptability and efficiency.

Project Planning

- **Top-Down and Bottom-Up Planning:** Top-down planning suits projects with fixed requirements, establishing objectives, schedules, and resources upfront. Bottom-up planning allows flexibility, making it ideal for Agile projects where requirements may evolve.
- **Critical Path Method (CPM):** CPM identifies the longest sequence of dependent tasks, helping to prioritize tasks and manage delays. Concepts like float time (allowable delay without affecting the deadline) and task dependencies underscore CPM's importance for on-time project delivery.
- **Work Breakdown Structure (WBS):** WBS organizes complex projects by breaking them into manageable tasks, aiding in task allocation, resource planning, and budgeting, essential for clear accountability and efficient project execution.

Project Monitoring & Control

- **Monitoring vs. Control:** Monitoring tracks project progress, while control implements corrective actions, ensuring alignment with project goals. This distinction is vital for keeping projects on track.
- **Earned Value Management (EVM):** EVM assesses project performance by integrating scope, schedule, and cost, offering a clear picture of project health. Key metrics like Cost Performance Index (CPI) and Schedule Performance Index (SPI) reveal deviations, enabling timely budget adjustments.
- **Performance Indicators:** Indicators like schedule and budget variance, resource utilization, and quality metrics provide essential insights, facilitating proactive adjustments to maintain project efficiency and quality.

Application in Real Projects

- **Project Planning:** In a recent web development project, WBS helped segment tasks into manageable modules, aiding resource allocation and focus. CPM was applied to prioritize critical tasks—such as completing a security module before UI enhancements—ensuring

that the project stayed on track. Integrating CPM with Gantt charts could further clarify task dependencies, improving scheduling.

- **Project Monitoring & Control:** In a data migration project, EVM allowed tracking of budget adherence and timeline accuracy, enabling timely interventions. Automated alerts for budget variances improved forecasting accuracy, and resource utilization metrics enhanced task reassignment during workflow shifts. Inspired by these insights, I plan to explore additional automation tools for real-time monitoring in future projects.

Peer Interactions

Discussions with peers revealed contrasts between agile and waterfall approaches in risk management. Agile, with its iterative feedback, adapts better to changes, while waterfall is effective for stable, clearly defined projects, such as those in healthcare. A peer shared how EVM helped manage unexpected expenses, influencing my approach to budgeting and resource reallocation. Recommendations to use tools like MS Project for automated tracking and budgeting provided additional insights, further enhancing my project management approach.

Challenges Faced

Differentiating Quality Assurance (QA) from Quality Control (QC) was initially challenging. QA focuses on preventive measures, whereas QC is about identifying and correcting defects. Peer discussions and practical examples clarified these distinctions, reinforcing my understanding of how both roles support project quality. Applying CPM to interdependent tasks with overlapping timelines posed another challenge. Practicing CPM simulations improved my comprehension of task dependencies and their impact on project schedules, refining my prioritization skills in complex projects.

Personal Development Activities

To overcome these challenges, I reviewed EVM literature and attended a Six Sigma and ISO 9001 webinar, which broadened my understanding of quality management standards. Exploring Jira for QA management provided practical experience in automating issue tracking and integrating QA activities. Experimenting with Selenium introduced practical QA automation in iterative projects, particularly for continuous integration/continuous deployment (CI/CD) workflows. These activities not only deepened my theoretical knowledge but also strengthened my practical skills, aligning with my career goals in project and quality management.

Goals for the Next Week

1. **Explore Resource Leveling:** Investigate resource leveling techniques to improve team allocation across concurrent projects, enhancing resource efficiency.
2. **Develop Project Control Techniques:** Apply schedule optimization and budget variance techniques in small projects to strengthen control skills.
3. **Deepen EVM Knowledge:** Use EVM in practical exercises to enhance budgeting and scheduling skills, aligning with my goal of mastering effective project management techniques.