**Learning Journal 3**

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**Course:** Software Project Management

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**Dates Rage of activities:** (Oct 10 - Oct 29) , 2024

**Date of the journal:** Oct 31, 2024

This journal encompasses chapters 6, 7, 8 of the lectures.

**Key Concepts Learned:**

For this period, the focus was on the key components of project planning, monitoring, control, and closure which is detailed below:

1. Work Breakdown Structure (WBS):

The WBS, which stands for Work Breakdown Structure, is crucial for systematically organizing tasks. It illustrates connections between tasks and facilitates effective distribution of resources, aiding in project timeline and workforce management​.

1. Project Closure and Lessons Learned:

The closing of a project is essential for recording and for references in the future. Recording lessons learned can prevent recurring mistakes and capture valuable insights to enhance future project processes.

1. Earned Value Management (EVM):

EVM is an important tool for monitoring projects. It integrates cost and time control by assessing budget and schedule discrepancies using monetary figures. This enables accurate monitoring of project advancement and aids in detecting deviations at an early stage​.

1. Methods for Planning Projects: I gained knowledge of top-down and bottom-up planning approaches. Top-down planning begins by deconstructing the project into broader aspects initially, whereas bottom-up planning commences with evaluating smaller tasks before progressing to a comprehensive timeline.

**Application in Real Projects:**

I utilized both top-down and bottom-up planning methods in a recent project for creating a customer relationship management (CRM) tool. At first, we developed a timeline at a high level to give stakeholders an approximate launch date and important milestones, such as stages for gathering requirements, creating prototypes, conducting tests, and final implementation. This detailed plan enabled all participants to grasp the project's direction.

Nevertheless, once we delved into the specifics, we transitioned to a bottom-up approach to planning. Every division, including UI/UX, backend, and frontend, started calculating the amount of time needed for specific tasks like creating the dashboard layout or incorporating APIs. For instance, backend engineers set aside three weeks for creating user authentication features, using their previous experiences as a guide. The smaller approximations were combined to improve our original broad timetable. Utilizing both top-down and bottom-up methods enabled us to modify the timeline and provided stakeholders with feasible expectations.

Also, we once worked on completion of a mobile app development project, it was crucial to have a closure phase in order to gather insights and lessons. This initiative, which sought to introduce a fitness application, encountered challenges such as regular scope adjustments stemming from changing client needs. Throughout the closure phase, we carried out an in-depth examination of project measurements and stored input from team members in records.

One key takeaway was the significance of establishing and managing project scope from the beginning. Numerous scope modifications resulted in extensive reworking, particularly on UI/UX components. Recording these observations was extremely valuable as we got ready for a project that was very much alike, which we started not long after. We modified our procedure to have more regular communication with clients regarding their needs and establish stricter guidelines for defining a scope change.

Through a detailed record of these lessons, we created tactics to reduce scope creep in upcoming projects. This incident emphasized the importance of wrapping up projects as a chance for learning, not just for process improvement, but also for gathering valuable knowledge to boost future project results.

**Peer interaction:**

I had a valuable conversation with Kevin Wadera, my study mate, who explained the effective utilization of the WBS for resource allocation, because even though we implemented it in the past, I still didn't get the clear understanding because I wasn't the manager or team lead at the time.. He recommended arranging tasks with clear dependencies to prevent resource conflicts, which was particularly useful for coordinating with team members working on related tasks.

**Challenges Faced:**

1. Understanding Earned Value Management (EVM) was difficult at first, particularly when it came to determining and analyzing metrics such as Cost Performance Index (CPI) and Schedule Performance Index (SPI). Comprehending these differences necessitated a strong understanding of project finances and timelines, a skill that I was still developing. Moreover, converting EVM measurements into practical conclusions was not easy; the figures by themselves didn't always provide a clear understanding of the necessary steps to rectify schedule or budget discrepancies.

Plan of Action:

Short-Term: Collaborate with an experienced EVM mentor to review sample calculations and examine case studies demonstrating EVM application.

Long-Term: Integrate EVM methods into smaller projects to build trust in monitoring budget and schedule deviations. Furthermore, consider obtaining certification in Project Management Professional (PMP) or PRINCE2 for extensive training in cost and schedule management.

1. Change control and Management for Project Scope.

Scope management presented difficulties as well, particularly in projects involving numerous parties. Changes frequently occurred informally, affecting both schedules and finances. For instance, clients' requests for design changes in the final stages necessitated significant reworking and additional resource allocation.

Plan of activities:

Short-term goal: Implement a uniform procedure for managing changes in upcoming projects, requiring a formal assessment of their impact on scope, budget, and schedule prior to authorization. Involve stakeholders at the beginning to establish clear expectations regarding changes in the project scope.

Long-Term: Enhance negotiation abilities for better management of scope conversations. Utilize change management frameworks like Prosci's ADKAR model to enhance change and communication management in projects.

**Personal development activities:**

In order to enhance my skills in software project management, I have created a plan with the following actions:

1. Building Analytical and Estimation Skills. Enhance my understanding of statistical analysis by focusing on advanced methods like Monte Carlo simulations for estimating and analyzing risks. I intend to utilize these methods in a controlled environment (such as on simulated or low-risk projects). Introduce regular post-project phase meetings to assess estimation precision and modify approaches for upcoming projects.
2. Improving Interpersonal Abilities for Stakeholder and Scope Management. Improve my communication and negotiation abilities in order to manage scope more effectively. I intend to participate in negotiation and stakeholder engagement workshops to enhance my skill in managing expectations.

Employ effective change management strategies on minor projects, slowly gaining confidence in managing client needs alongside project limitations.

**Goals for the following week:**

1. Enhance estimating abilities: Study different techniques to enhance the precision of my task duration predictions.
2. Improve EVM Application: Collect specific cost information for smaller project sections to increase the accuracy of EVM.
3. Learn about Change Management: Concentrate on mastering techniques to handle project scope modifications efficiently in order to preserve project stability.