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**Course:** SOEN 6841

**Journal URL:** https://github.com/anubhavm101/SPM-Learning-Journal

**Dates Rage of activities:** 05-Oct-2024 to 02-Nov-2024

**Date of the journal:** 02-Nov-2024

**Key Concepts Learned:**

* **Work Breakdown Structure (WBS)**: A work breakdown structure (WBS) divides the project into smaller, tasks, allowing teams to divide complex deliverables into specific tasks. This assures explicit task relationships and effective resource allocation, making progress easy to track.
* **Top-Down and Bottom-Up Planning:** These are the two techniques used for project schedules and resource allocation. The top-down method begins with the final deliverable (project goal) and break it down into smaller, more manageable tasks, whereas the bottom-up strategy the project team has defined the tasks and can make accurate estimates at a detailed level.
* **Project milestones and deliverables:** Establishing milestones is critical for tracking progress and ensuring that the key outputs are consistent with project objectives. Milestones act as checkpoints to determine whether the project is on track to completion, whereas deliverables are results which are created throughout the project's lifecycle.
* **Budgeting and Cost Control**: Establishing a clear budget help track actual expenses against expected costs. Effective cost control helps to avoid budget overruns and guarantees that the project is finished within its budgetary restrictions, which is critical to project success.
* **Earned Value Management (EVM)**: EVM is a powerful tool for assessing project performance by comparing the planned progress with actual accomplishments. It integrates cost, schedule, and scope, providing a comprehensive view of project health and facilitating timely decision-making.
* **Resource Loading Metrics**: Monitoring resource utilization helps detect bottlenecks and idle time among the team members. This enables project managers to optimize staff distribution for project, ensuring that tasks are executed efficiently and without overloading any specific individual.
* **Slack and Buffer Management**: Both slack time and buffer time protect against delays, but the difference is how they are added. While slack time arises naturally from the scheduling process, buffer time is strategically added to the project timeline.
* **Performance Indicators and Monitoring Techniques**: Establish key performance indicators (KPIs) to evaluate progress and assess project health. Monitoring strategies, such as progress reports and team meetings, offer regular evaluations of alignment with the baseline plan, allowing for timely adjustments to keep on track.

**Application in Real Projects**

* **Using WBS and Critical Path for Better Scheduling:** Breaking down big projects into smaller tasks with WBS makes scheduling easier and helps manage resources well. Identifying the critical path means the most important tasks are prioritized, reducing chances of delays.
* **Tracking Budget and Time with EVM**: EVM is valuable for keeping projects on track with both time and budget. In agile projects, it provides regular updates, helping to keep costs in check and ensuring deadlines are met, even with changes along the way.
* **Managing Resources and Slack**: Efficiently assigning resources prevents team overload and avoids idle time. For interdependent tasks, adjusting resources or reordering tasks helps keep everything moving smoothly without delays.

**Challenging Component: New Approach**

An innovative idea could be combining EVM with data predictions. By analyzing task completion rates, we could forecast delays or budget issues early, allowing managers to adjust plans and resources proactively. This way, potential problems could be solved before they impact the project.

**Peer Interactions:**

* **Poster on Building an Effective Roadmap**: While developing a poster on creating effective roadmaps, I shared drafts with my poster partner, who provided constructive feedback on design and structure. Her insights helped me improve the flow and clarity, making the poster more informative and visually engaging. This feedback process strengthened my presentation skills and my ability to communicate ideas clearly.
* **Exam Preparation**: Studying with classmates for an exam allowed us to tackle challenging concepts together. By discussing complex topics and sharing study strategies, I was able to deepen my understanding of the subject and build confidence, benefiting from the unique perspectives of my fellow peers.
* **Project Collaboration on Intelligent Tutoring System**: My teammate and I actively discussed the goals and structure of our Intelligent Tutoring System project. We brainstormed features, reviewed tasks, and addressed potential obstacles. These discussions helped us align our approach and ensure that each component was well-planned, reinforcing the importance of collaboration and clear communication.

**Challenges Faced:**

* **Managing Multiple Deadlines:** Balancing several project deadlines alongside other responsibilities was challenging. Prioritizing tasks became difficult, and sometimes, work needed to be quickly adjusted to meet due dates, which led to stress and a need for better time management.
* **Effective Communication in a Remote Setting:** Collaborating effectively with team members in different locations and time zones creates gaps in communication. Important updates are sometimes missed, requiring extra follow-ups to ensure everyone is aligned.
* **Unexpected Scope Changes:** New requirements emerge mid-project, which impacts the original timeline and resources. Adjusting the plan to accommodate these changes without delaying other tasks is a common challenge.

**Personal development activities:**

* **Reflection on Learning:** Engaged in studying project management concepts to enhance understanding of planning, monitoring, and control. This included reading and analyzing project management literature, leading to a deeper grasp of techniques like WBS and EVM.
* **Practical Application**: Worked on group projects, applying learned concepts in real-world scenarios, enhancing both my theoretical knowledge and practical skills in managing software projects.
* **Skill Development:** Participated in workshops and training sessions focused on project management tools (e.g., MS Project, Jira) to improve scheduling and resource allocation skills.

**Goals for the Next Week:**

* **Enhance Project Planning Skills**: Complete a detailed Work Breakdown Structure (WBS) for the “TubeLytics” project my APP project using project management software, aiming to break down tasks and assign responsibilities effectively.
* **Master Earned Value Management (EVM)**: Study EVM principles and apply them to a hypothetical project scenario by calculating cost and schedule variances, enhancing my ability to monitor project performance.
* **Improve Communication Skills**: Prepare and deliver a brief presentation on project monitoring techniques to my study group, focusing on clear communication and engaging delivery to boost my public speaking confidence.