**SOEN 6841 - SOFTWARE PROJECT MANAGEMENT**

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This week I had the opportunity to have a glance on two chapters Project Monitoring and Control and Project Closure. Since, we just had a glance or an overview for this week I thought of digging deep into the chapters by viewing the slides. I will share my observations here.

**Key Concepts Learned:**

I studied the chapter Project Monitoring and Control in the presentation, and I got to learn new concepts. The thing is to have a solid project plan which has a baseline of the start and end dates of the project and the actual start and end dates of the project which will give an understanding of how the project is progressing and if there is any deviation observed. In addition to project schedule, project budget can also be monitored and controlled but it should have baseline and actual project estimates in accordance with the project.   
  
Earned Value Management (EVM) is a good tool to track budget. There is a distinction between Monitoring and Control,

Monitoring : It is all about collecting sufficient data to measure progress.

Control: It is all about whether the project is delivering what it really intended to.   
  
There are a set of areas that can be controlled which is Performance, Quality, Costs, Time, Scope, Risk and Teams. Scope is changed when there are requirements changes and it should be either approved or not based on the feasibility. Risk is continuously monitored since, it can happen anytime and decisive actions need to be analysed and taken. Teams can be controlled by ensuring the happiness, satisfaction and motivation is ensured throughout the project.

There are few steps for project control,

Establish Baselines:

Budgeting, Scheduling, Performance and Work Breakdown structure ensures that a baseline is set for the project. Changes are only made when there is an approval for it.

Monitor & measure Performance:

Collect accurate information in regard to completion rate, costs expended, quality tests, etc. Timely collection of data is required though.

Compare performance to baselines:  
 Compare the actual performance with the baselines and use tools to measure the progress rate of the project.

Take Corrective Action:

Revising the plan, not taking actions with minor variances, re-planning the activities or ending up terminating the project. A correct decision needs to be taken

Monitoring Progress can be done through team meetings, regular progress reports and specific technical meetings. It can be calculated and visualized through S curve and Earned Value Analysis (EVA) respectively. Earned Value Analysis uses dollars to measure progress for each task and calculates the outcome whether the desired value is derived from each task. If the actual value is less, then, project is in loss else it’s in the right direction.   
  
But for EVA to be a success, there must be accurate collection and reporting of data. This ensures that completion percentage, ahead/behind of schedule, on/off budget etc.

There is another chapter that I went through which is project closure. Project closure is equally important with all other phases, because, it has the cost estimation, WBS, project plan, risk management and other such metrics which will be super useful when there is another similar project being designed. These metrics will serve as a rough estimate on how calculating the estimates.  
  
Proper project archives need to be done because it is necessary for the project data to be clean and relevant or else it won’t be of no use.

**Reflections on Case Study/course work:**

After reviewing the slides for this week, I got to learn concepts that can assist in my technical and management role in my professional career. It was informative in reinforcing the theoretical principles discussed in the course by providing a hands-on opportunity to apply project management fundamentals in a simulated project environment.

One of the key were the importance of establishing robust baselines in project management. Baselines serve as foundational benchmarks against which the actual progress of a project is evaluated. By meticulously defining baselines encompassing critical project aspects such as cost, time, scope, and quality, project managers can effectively monitor project performance and discern any deviations from the planned trajectory.

This shows the importance of employing performance indicators or project metrics to gauge project execution against the established baseline project plan. Metrics such as schedule variance and budget variance emerged as tools for assessing the overall health of a project and facilitating data-driven decision-making regarding corrective actions.

Additionally, the coursework provided exposure to sophisticated tools such as Earned Value Management (EVM), which proved instrumental in integrating cost and schedule performance metrics. EVM, with its ability to offer a holistic perspective on project progress, empowered project managers to conduct comprehensive evaluations and make informed decisions aimed at optimizing project outcomes.

For Project Closure, it provided a valuable opportunity to deepen my understanding. I gained insights into the meticulous processes involved in wrapping up a project successfully. Specifically, I learned about the critical importance of ensuring that all deliverables, including the tested software product, user manuals, and training materials, are completed and handed over to the customer before the project deadline. This emphasized the significance of meticulous planning and execution throughout the project lifecycle to meet client expectations and deliver high-quality outcomes.

Furthermore by exploring the challenges associated with version control and ensuring alignment between the final source code and accompanying documentation, I gained a deeper appreciation for the importance of maintaining accuracy and consistency in project deliverables. This aspect resonated with the course content's emphasis on the need for effective configuration management systems and meticulous attention to detail in software development processes.

Also, the coursework highlighted the value of archiving project data for future reference and analysis. By recognizing the role of historical project data in informing future project planning and decision-making, I gained insights into the importance of knowledge management and leveraging past experiences to drive continuous improvement. This highlights the course's emphasis on leveraging project insights and lessons learned to enhance organizational learning and optimize project outcomes over time.

In essence, the case study activity served as a bridge between theoretical knowledge and practical application, fostering a deeper appreciation for the multifaceted challenges encountered in project management.

**Applications in Real time projects:**The insights I gained from this week's class project planning is essential for a project to see success and provides valuable guidance for real-world projects. Let’s take an example of the development of an enterprise resource planning (ERP) system for a large multinational corporation. The ERP system aims to streamline and integrate various business processes, including finance, human resources, supply chain, and customer relationship management. Given the scale and complexity, effective monitoring and control mechanisms are essential to keep it on track and within budget.

Implementation of Earned Value Management (EVM) can be used to track both schedule and budget progress. For instance, if a module of the ERP system is completed ahead of schedule and under budget, it earns a positive value, indicating successful performance. Conversely, delays or cost overruns result in negative values, signaling potential issues that require corrective action.

Implementing EVM in a real-world ERP project poses several challenges. Firstly, establishing accurate baseline plans and cost codes for the multitude of tasks involved in ERP development requires meticulous planning and coordination among various stakeholders. Additionally, collecting and reporting data on actual progress and expenses in a timely manner can be daunting, especially in large-scale projects with numerous interdependent components.

Deviations from the plan may involve complex decision-making processes and trade-offs between schedule, cost, and quality objectives. Deciding whether to re-plan activities, revise the original plan, or terminate the project altogether requires careful consideration of various factors, including stakeholder expectations, resource availability, and project feasibility.

Despite all these challenges, the benefits of applying project monitoring and control concepts in ERP development are significant. By using EVM and other monitoring techniques, project managers can gain real-time insights into project performance, enabling them to identify potential risks and take proactive measures to mitigate them. Moreover, having a robust control system in place enhances stakeholder transparency and accountability.

**Collaborative Learning:**

For this week I had the opportunity to discuss about the midterm topics along with the class. We discussed about the midterm questions and about learning journals.

We also had a discussion about Project deliverable II and posterathon. Project deliverable – II had 5 areas to cover and my team had a discussion about the topics and who gets to work on what area. As of now, we have split the topics to work on and also started to prepare for it. I am working on the project plan (work breakdown structure) and I am currently referring the book.

For the posterathon, I have formed a team and we have chosen a topic on how to deal with huge projects with more than twenty teams. We are yet to discuss on that.

**Adjustments to Goals:**

For previous week, I have achieved the goal of completing the mid term exam.

For next week, I would have to submit the project deliverable II along with the team. We should also have a consultation with our assigned TA in regards to the project deliverable and work on any feedback provided by the TA.

Regarding the posterathon, I should have a discussion with my team mate and possibly start working on the topic as well.