Learning Journal [Week 2]

Student Name: Bhoomiben Kiritbhai Bhatt
Course: SOEN 6841 Software Project Management
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Key Concepts Learned

1. Significance of Method Selection: Stresses the importance of choosing appropriate techniques that match the project's attributes to ensure precise effort and cost estimations.
2. Tailored Project-Specific Approaches: Emphasizes the need for varied and customized effort estimation methods to align with the unique characteristics of each project.\
3. Specialized Techniques:
    - Function Point Analysis: Recognized as a specialized method for detailed project evaluation, extending beyond conventional size-based metrics.
    - Wide Band Delphi: Introduced as a method that harnesses expert insights to make informed effort estimates.
    - COCOMO Models: Discusses the COCOMO family, detailing the Basic, Intermediate, and Detailed models to cater to various project needs.
4. Adaptation to Project Methodologies:
    - Waterfall Model–Based Estimation: Examines specific considerations for estimating effort in linear, sequential project approaches.
    - Iterative Model–Based Estimation: Looks into effort estimation within iterative projects, accounting for cycles of refinement and improvement.
5. Resource Estimation: Explains the concept of resource estimation, highlighting the importance of effectively allocating resources to ensure project success.
6. Artifacts and Practical Insights: Underscores the role of documentation and project artifacts for ensuring transparency, along with practical considerations for clear communication.
7. Product Development Context: Situates effort and cost estimation within the broader context of product development, highlighting their critical contribution to the project's overall success.
8. Strategic Cost Estimation:
    - Cost Factor Analysis: Investigates the complexity of analyzing the factors that drive project costs.
    - Activity-Based Cost Estimation: Presents a strategic framework for cost estimation based on specific project activities and how costs are distributed.

Applications in Real Projects:

1. Collaborative Estimation Challenges: The nature of open-source development requires non-traditional estimation methods to account for the decentralized, volunteer-driven contributions.
2. Estimation Approach: Expert judgment, coupled with consensus from the community, plays a central role in determining both effort and cost estimates.
3. Effort Estimation Factors: Effort estimation depends heavily on the skills and availability of volunteer contributors and the complexity of the project, often tracked on platforms like GitHub.
4. Non-Monetary Cost Estimation: Cost estimation in open-source projects involves tracking non-monetary resources, such as volunteer hours. For example, the Apache Software Foundation manages its community-driven cost through careful resource allocation.
5. Linux Kernel as a Case Study: The Linux Kernel project exemplifies the challenges of effort and cost estimation, with the Linux Foundation using a combination of community feedback, historical data, and financial records for accurate estimations.

6. Blended Methodology: In open-source projects, a mix of qualitative and quantitative approaches, incorporating community input and historical data, is essential for reliable effort and cost estimation.

Peer Interactions:
This week, our team focused on advancing our digital skill training for low-income communities project. I collaborated with a classmate to analyze the case study from Chapter 3, which centers on a SaaS vendor's progress in developing complex appointment scheduling logic. After completing Chapters 1 and 2, we devised a strategy to hold weekly discussions on the case studies, integrating insights into our ongoing project. During team meetings, I also shared a similar project I had worked on previously, and we analyzed its weaknesses. Viewing it from a project manager's perspective, we brainstormed potential improvements.

Challenges faced:
After the first week, understanding the conceptual aspects of cost estimation came relatively easily. However, the practical application, particularly the complex calculations, proved to be more challenging. During our project discussions, we considered adopting a cost estimation model to forecast financial outcomes based on planned functions. As I had struggled in a previous class, I spent time reviewing Chapter 4 and its slides, which helped me gain a clearer understanding of the technical details and project risk management. Conducting market analysis was also difficult due to the unfamiliarity of the domain. To tackle this, I suggested integrating case studies and research papers to deepen our understanding of the market landscape pertinent to our project solution.

Personal Development Activities:
As the course has progressed, my mindset has gradually shifted from that of a traditional developer to one more focused on management. Exploring various topics and working on project solutions required extensive research, leading me to develop a more comprehensive understanding of the project from a business perspective. In line with previous discussions, particularly regarding initiatives like Google Summer of Code (GSoC) and their focus on open-source projects, I actively contributed by identifying issues within codebases. This has been helpful in both the current project and another course I am taking.

Goals for the Next Week:
- My primary goal for the coming week is to make significant progress on tasks related to project initiation and market analysis, as the deadline is approaching.
- I also plan to thoroughly review the previous chapters for a quick and in-depth revision.
- Meetings with my project team are scheduled to address any challenges related to the initial project deliverable.
- Furthermore, I aim to explore the case studies provided in our course materials to strengthen my understanding and prepare for the next chapter in the upcoming class.